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MR281679 Sequence
AR281679 Sequence
AR8413571 Sequence
AR141371 Sequence
AR281680 Sequence
AX280919 Sequence
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AR281681 Retus norv
L04092 Cavia porce
D16534 Rattus norv
L22001 Rat kappa o
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AR270854 Sequence
AX548862 Sequence
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                                                               6, 2005, 12:28:42; Search time 5374.67 Seconds (without alignments) 10403.867 Million cell updates/sec
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GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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ALIGNMENTS

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HSU17298 1154 bp mRNA linear PRI 14-JUL-1995
Human kappa opioid receptor (hKOR) mRNA, complete cds.
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Biotechnologie De Strasbourg, Boulevard Sebastien Brandt, Illkirch,
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1 (bases 1 to 1154)
Simonin; F., Gaveriaux-Ruff, C., Befort, K., Matthes, H., Lannes, B., Micheletti G., Mattei, M.G., Charron, G., Bloch, B. and Kieffer, B. kappa-Opioid receptor in humans: cDNA and genomic cloning, chromosomal assignment, functional expression, pharmacology, and expression pattern in the central nervous system

Proc. Natl. Acad. Sci. U.S.A. 92 (15), 7006-7010 (1995)
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Mansson, E., Bare, L. and Yang, D.
Isolation of a human kappa opioid receptor cDNA from placenta
Biochem. Biophys. Res. Commun. 202 (3), 1431-1437 (1994)
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Kits, such as nucleic acid arrays, comprising a majority of
humanexons or transcripts, for detecting expression and other uses
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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PE Corporation (NY) (US)
Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                   1 ATGGACTCCCCGATCCCAGATCTTCCGCGGGGAGCCGGGCCCTACCTGCGCCCCCGAGCGCC
                                                                                                                                                                                                                                                                                        Gaps
            1. .1143

//gene="Mors"

/note="G-protein coupled; transmembrane protein"

/codon start=1

/product="Kappa opioid receptor"

/product="MacSo158.1"

/db_xref="G1:596070"
                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                           Length 1154;
                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                        Score 1152.4; DB 9;
Pred. No. 1.2e-201;
0; Mismatches 1;
                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 99.9%;
Matches 1153; Conservative
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/trānslation="MDSPIQIFRGEPGPTCAPSACLPPNSSAWFPGWAEPDSNGSAGS
BDQLEPAHLSPAINVITAYVSVVYVYGLVGBINVMFVITYRTNIYITENIA
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LVVVVAVFVVCWTPIHILILVLAGGTSSTSFSTAALSSYYFCIALGYTNSLNPILYFLD
ENFKRCFRDFCFPLKMRMERQSTSRVANTVQDDAYLRIDGMMKEV"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGAATTCCTGGCCTTTTGGGGATGTGCTGCAAGATAGTAATTTCCATTGATTACTAC 420
                                                                                                                               Cloning of a human .kappa. opioid receptor from the brain Life Sci. 56, 201-207 (1995)
Coriginal source text: Homo sapiens (clone d2-115) (tissue library: genomic in lambda dash and cDNA in lambda ZAPII) fetus brain cDNA to mRNA.
                                        Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                /tissue_type="brain"
/dev_stage="fetus"
/tissue_lib="genomic in lambda dash and cDNA in lambda
ZAPII"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGGCTTTGGCAGATGCTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 AGGGCCGGCTCGGAGGAGGCGCAGCTGGAGCCCGCGCACATCTCCCCGGCCATCCCGGGTC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCGCCGGCTCGGAGGACGCGAGCTGGAGCCCGCGCACATCTCCCCGGCCATCCCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181 ATCATCACGCCGCTCTACTCCGTAGTGTTCGTCGTGGCCTTGGTGGGCAACTCGCTGGTC
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Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 1604)
Liu, Chen, C., Xue, J.-C., Kunapuli, S., Deriel, J.K. and
Liu-Chen, L.-Y.
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378. .150

378. .150

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/mol_type="mRNA"

/db xref="taxon:9606"

/map="8q11.2"
                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                    /clone="d2-115"
  sapiens (human)
                    Homo sapiens
  Ношо
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                                                                                                                               TITLE
JOURNAL
COMMENT
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AUTHORS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1020
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     911 AGCACCTCCCACAGCACAGCTGCTCTCCCAGCTATTACTTCTGCATCGCCTTAGGCTAT 970
AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTG 490
                    GTCAGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCAGTCTTCGTCGTCTGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG
                                                                        CTGGCTTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG
                                                                                                                                                                                                                              AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTG
                                                                                                                                                                                                                                                                                                         TGCCACCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCAATATC
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HUMOPRK1B
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ACCESSION VERSION KEYWORDS

LOCUS

| Query Match 99.2%; Score 1144.4; DB 6; Length 1182; Best Local Similarity 99.5%; Pred. No. 3.7e-200; Matches 1148; Conservative 0; Mismatches 6; Indels 0; Gaps 0; | OY 1 ATGGACTCCCGGATCCAGATCTTCCGCGGGGACCGGGCCCTACCTGCGCCCCGAGGGCC 60 | Qy 61 TGCCTGCCCCCAACAGGGGCCCTGGTTTCCCGGCTGGGCCGAGCCGAACGGC 120 1 | | OY 181 AICAICAGGGGGTCTACTCCGTAGTGTTCGTCGTGGGCTTGGTGGGCAACTCGCTGGTC 240 Db 194 AICAICACGGCGGTCTACTCCGTAGTGTTCGTCGTGGGCTTGGTGGGCAACTCGTGGTC 253 | | | | QY 421 AACAIGITCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACGCTACATTGCCGTG 480 | OY 481 TGCCACCCGGGAAGGCTTTGGACTTCCGCCACCCCTGAAGGCAAAGATCATCAATATC 540 | OY 541 TGCATCTGGCTGTCGTCATCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA 600 | | 0y 661 IGGIGGACCTCTICAIGAAGAICTGCGICTTCAICTTIGCCTTCGTGAICCTC 720 | Qy 721 ATCATCATCGTCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTTTCT 780 | OY 781 GGCTCCCGAGAGAACGCCACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTGGTG 840 | Oy 841 GCAGTCTTCGTTGTCTGCTGAACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG 900 | OY 901 AGCACCTCCCACAGCACCTCCTCCAGCTATTACTTCTGCATCGCTTAGGCTAT 960 | OY 961 ACCAACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAACTTCAAGCGGTGT 1020 11 | |
|--|---|--|---------|--|--------------|-----|--|--|---|--|------|--|---|--|--|---|--|-------------------------|
| Qy 421 AACATGTTCACCAGGATCTTCACCTTGACGATGATGAGGGGGGACGGCTACATTGCCGTG 480 NA 798 AACATGTTCACCAGCATCTTCACCTTGACGATGAGCGTGGACGTGACCGTACATTGCCGTG 857 | 481 TGCCACCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCA | 541 | 601 601 | 661 | 721 721 1098 | 781 | QY 841 GCAGTCTTCGTTGTCTGGACTCCCATTCACAIATTCATCCTGGTGGAGGCTCTGGGG 900 1218 GCAGTCTTCGTCGTCGTCGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG 1277 | 901 | 961 | 1021 | 1081 | 1141 | SULT 4 | AR270854 LOCUS AR270854 LOCUS AR270854 ARCESSION AR270864 LOCUS AR270864 | VERSION ARZ/0854:1 G1:27/02050 KEYWRDS . SOURCE Unknown. ORGANISM Unknown. | REFERENCE 1 (Lases 1 to 1182) AUTHORS Au-Young, J. and Seilhamer, J.J. TITLE Composition for the detection of signaling pathway gene expression | , o | 1001 - CYPO- 96410001 C |

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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                     494 TGCCACCCGGGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCATATC
                                                                                                                                 TGCATCTGGCTGTCGTCGTCTGTTGGCATCTCTCTGCAATAGTCCTTGGAGGCACCAAA
                                                                                                                                                                                                                               614 GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGATGACTACTCC
                                                                                                                                                                                                                                                                                                                             674 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC
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         TGCCACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATC
                                                                                                     TGCATCTGGCTGTCGTCATCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA
                                                                                                                                                                                                    GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTCC
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Patent: WO 03038129-A 80 08-MAY-2003;
Ortho-Clinical Diagnostics, Inc. (US)
Location/Qualifiers
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/organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAACCAGTA
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                                                                        CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAACCAGTA
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Antigenic peptides, such as for G protein-coupled receptors (GPCRs), antibodies thereto, and systems for identifying such antigenic peptides
Patent: WO 02061087-A 147 08-AUG-2002;
Lifespan Biosciences, Inc. (US)
Location/Qualifiers
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Pred. No. 3.7e-200;
0; Mismatches 6;
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    .1182
/organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"

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99.5%;
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| Db 1034 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGAGCGGCAGAGCACTAGCAGAGTC 1093 Qy 1081 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGACATCGATGGATG | RESULT 7 HSU11053 LOCUS HSU11053 LOCUS HSU11053 DEFINITION HUMAN Kappa opioid receptor (hKOR) mRNA, complete cds. ACCESSION U11053 VERSION U11053.1 GI:532059 | HOM HOM Euk Mam | REFERENCE 1 (Dates 1 to 1182) AUTHORS Mansson, E., Bare, L. and Yang, D. TITLE Isolation of a human kappa opioid receptor cDNA from placenta JORRAL Blochem. Blochys. Res. Commun. 202 (3), 1431-1437 (1994) MEDI, INE 94338360 | | AL Submitted PPD, 100 | /organism="Homo sapiens" /mol_type="mRNA" /db_tref="tref="traxon:9606" //organism="hytra" 1" | gene / tissue type="placenta" . 1. 1182 /gene="hKOR" . 1. 1182 /gene="hKOR" . | | / procedin rac = markosos:: // db_xref="G1:532060" / translation="MESPIQIFRGEPGPTCAPSACLPPNSSAWFPGWAEPDSNGSAGS / translation="MESPIQIFRGEPGPTCAPSACLPPNSSAWFPGWAEPDSNGSAGS PROPERTY PROCEDING PR | LADALI I INTER 291 VILMANSHE FOUN LAXA VISILIA INTER 21 ILIITAAN CHEVKALDERILAKAKI INTER 21 VILMANSHE CONTIAN VISILIA VILMANSHE CHEVKALDERILAKAKI INTER 21 VILMANSHE CONTIAN VILMANSHE CHEVKALDERILAKAKI CVPI PAFVI PVLI I IVCYTLMILRIKSVRLLSGSREKDRNILRI ITRLV LVVYTLMILRIKSVRLLSGSREKDRNILRI ITRLV LVVYTLMILRIKSVRLLSGSREKDRNILRI ITRLV END VILMANSHALGSTRANSTALGSTS YR CIALACTYTNSSINPILVAFLD RNFKRETED FRENCHTRING CONTINUA VILMILDIGANNKPV" | Match | ~ 5- | Db 14 AIGHAITCECCGATTTCCCCGGGGGGGCCTACCTACCTGCCCCGAGGCGCC 73 Oy 61 TGCCTGCCCCCCACAGGGCCTCGTTTCCCGGCTGGGCGGGC | Db 74 TGCTGCCCCCAACAGCGCCCTGGTTTCCCGGCTGGGCCGACAGCAACGGC 133 Oy 121 AGCGCCGGCTCGGAAGGCAGGCAGCCGGGCGGAACTCCCGGGC 180 | Db 134 AGCGCCGGCTCGGAGGACGCGCAGCTGGAGCCCGCGCACATCTCCCCGGCCATCCCGGTC 193 |
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| Best Local Similarity 99.5%; Pred. No. 3.7e-200; Indels 0; Gaps 0; Matches 114%; Conservative 0; Mismatches 6; Indels 0; Gaps 0; Qy Arggacrcccccarcccarcccarccccarccccarccccarccccarccccarccccarccccarccccarcccccarcccccarcccccarcccccc | 121 AGGGCGGGCTCGGAGGACGCGCGCGCACATCTCCCCGGCCATCCCGGTC | DD 194 AICAICAGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG | OY 301 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG 360 | Oy 361 AIGAATICCTGGCCTTTIGGGGAIGTGCTGTGCAAGATAGTAATITCCATGATTACTAC 420 | OY 421 AACATGITCACCAGCATCTTCACCTTGACCATGAGGGGGGGCCGCTACATTGCCGTG 480 | OY 481 TGCCACCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCATCATATTC 540 | OY 541 TGCATCTGGCTGCTGTCATCTGTTGCCATCTCTGCAATAGTCCTTGGAGGCACCAAA 600 | Qy 601 GTCAGGGAAGACGTCGATGCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC 660 Db 614 GTCAGGGAAGACGTCGATGCATTGAGTGCTCCTTGCAGTTCCCAGATGATGATGACTACTCC 673 | OY 661 IGGIGGGACCTCTTCAIGAAGAICTGCGTCTTCAICTTTGCCTTCGTGAICCCTGTCCTC 720 | OY 721 ATCATCATCGCTACACCCTGATGATCCTCGGTCTCAAGAGCGTCCGGCTCCTTTCT 780 | QY 781 GGCTCCCGAGAGAAAGATCGCAAACTGGTAGGATCACCAGACTGGTCCTGGTGGTGGTG 840 DD 794 GGCTCCCGAGAGAAAAGATCGCAAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGG | Qy 841 GCAGTCTTGCTTGTCTGGACTCCCATTCACATAITCATCCTGGTGGAGGCTCTGGGG 900 Db 854 GCGGTTTTCGTCGTCTGCTGGACTCCCATTCACATAITCATCCTGGTGGAGGCTCTGGGG 913 | QY 901 AGCACTCCCACAGCACAGCTGCTCTCCCAGCTATTACTTCTGCATCGCCTTAGGCTAT 960 | Qy 961 ACCAACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAACTTCAAGGGGTGT 1020 | Oy 1021 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGCGCAGAGCACTAGCAGAGTC 1080 |

GCCGCGCACATCTCCCCGGCCATCCCGGTC 180 CGTCGTGGGCTTGGTGGGCAACTCGCTGGTC 240 ABAGACAGCAACCAACATTAACATATTAAC 300 ACCATGCCTTTCAGAGTACGGTCTACTTG 360 FICCAAGATAGTAATTTCCATTGATTACTAC 420 ATGATGAGCGTGGACCGCTACATTGCCGTG 480 ACACCCTTGAAGGCAAAGATCATCAATATC 540 ANTCICTGCAAIAGTCCTIGGAGGCACCAA 600 CTCCTTGCAGTTCCCAGATGATGACTACTCC 660 720 ccceecreeecceneccenecachec 120 CCCGGCTGGGCCGAGCCCGACAGCAACGGC 120 720 n by expression of a G ted superiorly by synthetic ligand 003; 9 9 BAGCCGGCCCTACCTGCGCCCCGAGCGCC 1.4; DB 6; Length 1143; 1.3e-199; ches 1; Indels 0; Gaps q ઠ

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LADALVTTYMPFQSTVYLMNSWPFGDVLCKIVISIDYYNMFTSIFFLTMMSVDRYIAV
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YSWMDLFMKICVFIFAFVIPVLIIILVCYTLMILRLKSVRLLSGSREKDRNLRRITRLV
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1 (bases 1 to 1143)
Puhl, H.L., Ikeda, S.R. and Aronstam, R.S.
Direct Submission
Submisted (05-APR-2002) cDNA Resource Center, Guthrie Research
Institute, One Guthrie Square, Sayre, PA 18840, USA
Location/Qualifiers
1. .1143
/organism="Homo_sapiens"
                                                                                                           GCAGTCTTCGTCGTCTGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG
                                                                                                                                                                                                                       901 AGCACCTCCCACAGCACAGCTGCTCTCCCAGCTATTACTTCTGCATCGCCTTAGGCTAT
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 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC
                                                721 ATCATCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGGGTCCGGGCTCCTTTCT
                                                                                            GGCTCCCGAGAGAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTGGTGGTG
                                                                                                                                                          GCAGTCTTCGTTGTCTGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG
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Homo sapiens opioid receptor kappa
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Human kappa opioid receptor, nucleic acids
Patent: US 6146835-A 1 14-NOV-2000;
Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                           Score 1140.4; DB Pred. No. 2e-199; 0; Mismatches

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                                                                       Sequence 1 from patent US 6146835.
ARI41371
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Best Local Similarity
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TG 1142
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|--|--|--|--|--|--|
| Query Match 98.6%; Score 1138.2; DB 9; Length 1143; Best Local Similarity 99.7%; Pred. No. 5e-199; 3; Indels 0; Gaps Matches 1140; Conservative 0; Mismatches 3; Indels 0; Gaps 0; Qy 1 ArgGAGTCCCCGATCCAGATCTTCCGGGGGAGCCGGGCCCTACCTGGGCCCCGAGGCCC 60 | G A B A B A B B B B B B B B B B B B B B | CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCGGAGTGGGTCTTCCTGGCGTTTTCGGGGTCTTTTGGGTCTTTTGGGTCTTTGAGTTACTTTCCATTGATTATGGTTTTCCTTTTTCCATTGATTATGATTATGGTTTTCCTTTTCGTTTTTCCTTTTGATTATGATTATGATTATCCTTTGGTTTTTCCTTTGATTATGATTTTCCTTTGATTATGATTTTCCTTTGATTATGATTTTCCATTGATTTTTTTT | 481 TGCCACCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATATC 540 | GCTCCCGGGGGAGGTCGATGGTCGTCTTCGCGATGTCCCAGATGATGATGCTCGTCGTCGTCGTCGTCGTCGTCGTCGTCGTCGTCGT | ingagaangaTcgcaaC CcgTcgCTcTcCTgGaCT CcGTcGTCTGCTGGCT CCCCAGCAGCAGCTGCT CCCACAGCAGCTGCT TTAGCCTGAATCCCATT |

| Matches 1135; Conservative 0; Mismatches 8; Indels 0; Gaps 0; | Oy 1 AIGGACTCCCGAICCAGAICTTCCGCGGGGCCGGGCCCTACCTGCGCCCCGAGGGCC 60 | Db 1 ArgaArtcccGArtcAGArtcrccGCGGGGGGGGCCTGGCCCTGCGCCCCGAGCGCC 60 | QY 61 TGCCTGCCCCCAACAGCAGCGCCTGGTTTCCCGGCCGAGCCCGACCAGCAACGC 120 Db 61 TGCCTGCCCCCAACAGCAGCGCCTGGTTTCCCGGCCGGGCCGGAGCCGGAGCCAGCAACGCA 120 | OY 121 AGGGCCGGCTCGGAGGAGCTGGAGCCCGCGCACATCTCCCCGGCCATCCCGGTC 180 | 181 ATCATCAGGGGGGTCTACTCGTAGTGTTCGTGGGGCTTGGTGGGCAACTCGCTGGTGCTGGTGGTTGGT | 241 ATCTTCGTGATCATCGATGAAGATGAAGAGCACCAACATTTAAC | QY 301 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG 360 Db 301 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG 360 | Qy 361 ATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTTCCATTGATTACTAC 420 | Qy 421 AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACGGCTACATTGCCGTG 480 Db 421 AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACGCTACATTGCCGTG 480 | Oy 481 TGCCACCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCATATC 540 | Qy \$41 TGCATCTGGCTGCTGTCGTTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA 600 bb \$41 TGCATCTGGCTGCTGTCTGTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA 600 | Qy 601 GTCAGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGATGATGATGACTACTCC 660 | QY 661 TGGTGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTTGTGATCCCTGTCCTC 720 Db 661 TGGTGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTGTGATCCTGTGCTC 720 QY 721 ATCATCATCGTTGATGATCCTGCGTCTTCAAGAGCGTCCGGCTCCTTTCT 780 Db 721 ATCATCATCGTTACACCCTGATGATCCTGCGTCTCCAAGAGCGTCCGGCTCCTTTCT 780 Db 721 ATCATCATCGTTACACCCTGATGATCCTGCGGTCTCAAGAGCGTCCGGCTCCTTTCT 780 | QY 781 GGCTCCCGAAGAAAGATCGCAACCTGGTAGGATCACCAGACTGGTCCTGGTGGTGGTG 840 Db 781 GGCTCCCGAGAGAAAGATCGCAACCTGGTAGGATCAAGAGACTGGTCCTGGTGGTGGTGGTG 840 | Db 841 GCAGTCTTCGTTGTTGCTGGTGGACTCCCATTCACATATTCATCCTCGTGGAGGCTCTGGGG 900 841 GCGGTTTTCGTCGTGGTGTCTCGCGTTCACATATTCATCATCTCTGGTGGAGGCTCTGGGG 900 | Oy 901 AGCACCTCCCACAGCAGCTGCTCTCCCAGCTATTACTTCTGCATCGCCTTAGGCTAT 960 | Qy 961 ACCAACAGTAGCCTGAATCCCATTCTGTGACGTAAGAACTTCAAGGGGTGT 1020 | QY 1021 TTCCGGGACTTCTGCTTTCCACTGAAGATGGAGGAGGGCGGCAGAGCACTAGCAGAGTC 1080 |
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| Db 593 GCCACCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATCT 652 | 542 GCATCTGGCTGCTGTCATCGTGGCATCTCTGCAATAGTCCTTGGAGGC | 653 | Qy 602 TCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGACTACTCCT 661 Db 713 TCAGGGAAGACGTCGATGAGTGCTCCTTGCAGTTCCAGATGATGACTACTCCT 772 | Oy 662 GGTGGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCTCGTCGTCGTCGTCCTGTCTCA 721 1713 CGTGCGAACCTCTTCATGAAGATCTGCGTCTTCATCTTTGTCGTCGTCGTCGTCGTCGTCGTCGTCGTCGTCGT | 722 TCATCATCGTACACCCTGATGATCCTGCGTCTCAGAGCGTCCGGCTCTTTCTG | 782 GCTCCCGAGAGAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCGTGGTGGTGGTGG | Qy 842 CAGTCTTGGTGGTGGACTCCCATTCACATATTCATCTGGTGGAGGCTCTGGGGA 901 Db 953 CAGTCTTGGTCGTGTGTGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGGA 1012 | Qy 902 GCACCTCCCACAGGACAGGTGCTCTCTCCAGCTATACTTCTGCATCGCCTTAGGCTATA 961 Db 1013 GCACCTCCCACAGGACAGGTGCTCTCTCCAGCTATTACTTCTGCATCGCCTTAGGCTATA 1072 | Oy 962 CCAACAGIAGCCIGAATCCCATTCTCTACGCCTTTCTTGAAGAACTTCAAGCGGTGTT 1021 Db 1073 CCAACAGIAGCCTGAATCCCCATTCTTACGTGATGAAAACTTCAAGCGGTGTT 1132 | Qy 1022 TCCGGGACTTCTGCTTGAGGAGGATGAGGATGGAGGGGCAGAGCACTAGCAGAGTCC 1081 Db 1133 TCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGAGGAGGGCAGAGCACTAGCAGAGTCC 1192 | OY 1082 GAAATACAGTTCAGGATCCTGCTTACCTGAGGACATCGATGAATAAACCAGTAT 1141 Db 1193 GAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGATG | Oy 1142 G 1142 1 Db 1253 G 1253 | AX280919 LOCUS AX280919 LOCUS DEFINITION Sequence 542 from Patent WO0177172. ACESSION AX280919 AX280919 AX280919 AX280919.1 GI:16608215 | KAYWORDS SOURCE Homo sapiens ORGANISM Homo sapiens ORGANISM Homo sapiens Everaryotas, Metacoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia: Evithoria: Dimarca: Craniata; Lominidas, Lome | REPERENCE 1 AUTHORS Lehmann-Bruinsma, K., Liaw, C.W. and Lin, I.L. TITLE Non-endogenous, constitutively activated known g protein-coupled | receptors Patent: WO (Arena Pharma | source /1143 /organia="Homo sapiens" /mol_type="unassigned DNA" /db_xref="taxon:9606" | ORIGIN Query Match Best Local Similarity 99.3%; Pred. No. 1.5e-197; |

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Selective target cell activation by expression of a G
protein-coupled receptor activated superiorly by synthetic ligand
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CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG
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                                               ATGAATTCCTGGCCTTTTTGGGGGATGTGCTGTGCAAGATAGTAATTTCCATTGATTACTAC
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/product=="RG kappa 1 splice variant KOR 1A"
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/db xref=="G1.27373028"
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/AKINCIMLLSSSVGISAIVLGGTKREDVDVIECSLQFPDDDYSWMDLFNTCUFT
/prilmLCMLLSSSVGISAIVLGGSREKDRNLRRITRLVLVVVAVFVVCWTPI
/prilmVBALGGTSRYPALSSYYFCTALGYTRSSLNPILYAFLDENFKRCFRDFCFPL
/kmRmGRQSTSRVRNIVQDPAXLRDIDGMNKFV"
                                                                                                                                                                                                                                                        AXIDENUG 1396 bp mRNA linear PRI 25-DEC-2002
Home sapiens DRG kappa 1 splice variant KOR 1A mRNA, complete cds,
alternatively spliced.
                                                  Homo sapiens
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Bukaryota; Metazoa; Chordata; Catarrhini; Hominidae; Homo.
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
Iu, L.D. and Mansson, E.
Direct Submission
Submitted (23-OCT-2002) Molecular Biology, Adolor Corporation, 371
Phoenixville Pike, Malvern, PA 19355, USA
Location/Qualifiers
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Pred. No. 4.5e-184;
0; Mismatches 2; ]
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/note="opioid receptor kappa 1A;
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237. .1337
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Sequence:

8780412 Total number of hits satisfying chosen parameters: 4390206 segs, 2959870667 residues Searched:

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Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

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geneseqn2004as:* geneseqn2004bs:* geneseqn2003ds:* geneseqn2003cs: geneseqn2001bs:* geneseqn2002as:* geneseqn2002bs:* geneseqn2003as:* geneseqn2003bs:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

| _ | pescription | Adn30506 Human kap | Adn30505 Human kap | Adr44858 Human kap | Adn30510 Human kap | Adn30508 Human kap | Adn30507 Human kap | Adn30511 Human kap | Adn30509 Human kap | Abz42678 Human opi | Aad58490 Human kap | Ade84861 Farnesyl | Aca56819 Human sig | Adi56615 Human pol | Aat90998 Human kap | Aat12550 Human kap | Aat90999 Human kap | Ad190106 cDNA enco | Ado30011 Human GPC | Abi98011 Non-endog | Aat92601 Human kap |
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| SUMMARIES | 10 | ADN30506 | ADN30505 | ADR44858 | ADN30510 | ADN30508 | ADN30507 | ADN30511 | ADN30509 | ABZ42678 | AAD58490 | ADE84861 | ACA56819 | ADI56615 | AAT90998 | AAT12550 | AAT90999 | ADL90106 | AD030011 | ABI98011 | AAT92601 |
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| ם מין אַדְרָמָיִם וֹ | rengen | 1154 | 1154 | 1154 | 1154 | 1154 | 1154 | 1154 | 1154 | 1182 | 1182 | 1182 | 1182 | 1182 | 1143 | 1142 | 1284 | 1284 | 1143 | 1143 | 1275 |
| Query | MACCII | 100.0 | 6.66 | 6.66 | 7.66 | 99.7 | 99.7 | 7.66 | 99.7 | 99.2 | 99.2 | 99.2 | 99.5 | 99.2 | 98.9 | 98.8 | 98.5 | 98.5 | 98.2 | 97.9 | 86.6 |
| . 0 | score | 1154 | 1152.4 | 1152.4 | 1150.8 | 1150.8 | 1150.8 | 1150.8 | 1150.8 | 1144.4 | 1144.4 | 1144.4 | 1144.4 | 1144.4 | 1141.4 | 1140.4 | 1136.2 | 1136.2 | 1133.4 | 1130.2 | 999.4 |
| Result | Q | 7 | 7 | e | 4 | S | 9 | 7 | 8 | 6 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |

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| 1275 1275 1875 1875 1408 | 1410 2481 2481 1143 1911 2000 | 1401 1618 1618 1618 2070 9426 | 9569 10472 2162 1464 2951 1332 |
| 86.6 84.9 84.9 78.5 | 78.8 78.8 77.8 76.1 | 22 22 22 22 22 22 22 22 22 22 22 22 22 | 87.5 87.9 87.7 87.6 87.6 |
| 999.4 979.4 963.4 909.2 | 909.2 909.2 909.2 898.2 877.8 868 | 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 | 436.8 434.8 434.8 434.8 434.2 |
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ALIGNMENTS

Human; kappa opioid receptor; hKOR; ss; gene; SNP; single nucleotide polymorphism; endogenous opioid system; nociception; neurotransmitter release; learning; memory; cognition; pain; cocaine; amphetamine; alcohol; tobacco; opiate; withdrawal; neuroendocrine function; reproductive function; prolactin regulation; stress responsivity; mood; affect; immune function; agastrointestinal function; analgesia; additive disease; Human kappa opioid receptor, hKOR, C852T allele. ADN30506 standard; cDNA; 1154 BP (first entry) chromosome 8q11.2. Homo sapiens 12-AUG-2004 ADN30506; ADN30506

/standard_name= "Single_nucleotide_polymorphism" Location/Qualifiers replace(852,C) 13-JUL-2001; 2001US-00904584. /*tag= US2004097704-A1 20-MAY-2004. Key allele

14-JUL-2000; 2000US-0218300P.

(KREE/) KREEK M J. (YUFE/) YUFEROV V. (LAFO/) LAFORGE K S.

Laforge KS; Kreek MJ, Yuferov V,

WPI; 2004-389204/36.

Novel isolated variant allele of human kappa opioid receptor gene, useful

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The invention relates to an isolated variant allele of a human kappa opioid receptor gene, comprising a DNA sequence having at least one variation in a fully defined wild-type allele of human kappa opioid receptor (hKOR) sequence appearing as ADN0505, where the variation comprises C852T, C948T, C1008T or their combinations. Also included are comprises C852T, C948T, C1008T or their combinations. Also included are a isolated mucleic acid molecule selectively hybridising to the variant, as conject comprising the variant and an origin of replication, an expression vector comprising the variant associated with a promoter, a unicellular host transformed/transfected with the vector and a commercial test kit for determining the presence of at least one variation in a hKOR can allele in a bodily sample taken from a subject. The hKOR variant allele is useful for determining a susceptibility in a subject to at least one physiological response, condition or disease related to the endogenous opioid system, nociception, neurotransmitter release endogenous opioid system, learning, memory, cognition, pain, cocaine, camphetamine and other stimulants self-administration, behavioural sensitisation to cocaine, opiates, alcohol and tobacco, opiate, amphetamine and alcohol withdrawal, physical dependence and tolerance; controlled function, reproductive function, prolactin regulation, stress responsivity, physiology and pathology of mood and affect, immune function, gastrointestinal function. The hKOR variant allele is useful for determining a therapeutically effective amount of pain in a subject and is useful for determining a therapeutically effective amount of therapeutically effective amount of therapeutic agent to administer to a subject in order to induce analgesia in the subject. The mount of therapeutic agent to administer to a subject and is setul for determining a therapeutic agent to administer to a subject and is setul for determining a therapeutic agent to administer to a subject and is setul for the more addictive disea
for determining susceptibility in subject to physiological response, condition or disease related to endogenous opioid system.
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Sequence 1154 BP; 239 A; 338 C; 287 G; 290 T; 0 U; 0 Other;

AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTG 480 181 ATCATCACGGGGTCTACTCCGTAGTGTTCGTCGTGGGCTTGGTGGGCAACTCGCTGGTC 240 120 180 ATCATCACGGCGGTCTACTCCGTAGTGTTCGTCGTGGGCTTGGTGGGCAACTCGCTGGTC 240 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG 360 ATGAATICCIGGCCTITITGGGGATGTGCTGTGCAAGATAGTAATITCCATTGATTACTAC 420 121 Agceccedercegadeacececaecregadececececaearerecececeaecareceere 180 Argaaricciggccririggggargrgcrgrgcaagaragraarriccarrgarracrac 420 9 TGCCTGCCCCCCAACAGCAGCGCCTGGTTTCCCGGCTGGGCCGAGCCCGACAGCAACGGC AGCGCCGGCTCGGAGGACGCGCAGCTGGAGCCCGCGCACCATCTCCCCGGCCATCCCGGTC 1 ATGGACTCCCCGATCCTCCGCGGGGGGCCGGGCCCTACCTGCGCCCCGAGCGCC Anggachecedanceagarentedecedegedecedecetacendecedecede Gaps 100.0%; Score 1154; DB 12; Length 1154; 100.0%; Pred. No. 2.7e-274; tive 0; Mismatches 0; Indels 0; Query Match 100.0%; Best Local Similarity 100.0%; Matches 1154; Conservative (361 61 61 121 181 241 241 301 301 361 421 421 g 8 셤 ò g В 셤 g à 셤 ò à ò ò

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the inventorior states to an isolate and states of a numban Kappa opioid receptor gene, comparising a DNA sequence having at least one variation in a fully defined wild-type allele of human kappa opioid creceptor (hKOR) sequence appearing as ADN30505, where the variation comparises CB52T, C948T, C1008T or their combinations. Also included are an isolated nucleic acid molecule selectively hybridising to the variant, and an origin of replication, an expression vector comprising the variant and an origin of replication, and carporation vector comprising the variant and an origin of replication, and expression vector comprising the presence of at least one variation in a hKOR constraint allele in a bodily sample taken from a subject. The hKOR contraint allele is useful for determining a susceptibility in a subject to at least one physiological response, condition or disease related to the condogenous opioid system, nociception, neurotransmitter release endogenous opioid system, nectoring memory, cognition, pain, cocaine, amphetamine and other stimulants self-administration, behavioural condogenous opioid system, learning, memory, cognition, pain, cocaine, amphetamine and alcohol withdrawal, physical dependence and tolerance; cuross responsivity, physiology and pathology of mocd and affect, immune truction, gastrointestinal function. The hKOR variant allele is useful for determining a therapeutically effective amount of tharming a busecptibility to pain in a subject and is useful for determining a therapeutically effective amount of therapeutically effective amount of therapeutically effective administer to a subject in order to induce analgesia in the subject. The hKOR variant allele is useful for determining a therapeutic agent to administer to a subject to administer to a subject in order to induce analgesia in the subject me addictive disease to treat the at least one addictive dise
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for determining susceptibility in subject to physiological response,
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(LAFO/) LAFORGE K S.
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Score 1152.4; DB 12; Length 1154; Pred. No. 6.7e-274;

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Query Match Best Local Similarity

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                                   1140
                                                         New vector for delivering an opioid receptor to a nerve cell comprising sequence encoding a mu-opioid receptor and a vector backbone, useful in preparing a composition for reducing pain.
                                   opioid receptor; nerve cell; analgesic; gene therapy; pain; human; kappa opioid receptor; chromosome 8; gene; ss.
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                                                                                                                                                                                                                                                                                                                                                                                                Human kappa opioid receptor encoding cDNA SEQ ID NO:30
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/*tag= a
/product= "kappa opioid receptor"
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                                                                                                                                              19-FEB-2004; 2004WO-US004914
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Matches 1153; Conservative
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P-PSDB; ADR44857.
GENBANK; U17298.
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TGACTAGTCGTGGA

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single nucleotide polymorphism; endogenous opicid system, nociception, neurotransmitter release; learning; memory; cognition, pain; cocaine; ampheramine; alcohol; tobacco; opiate; withdrawa; neuroendocrine; function; reproductive function; prolactin regulation; stress responsivity,; mood; affect; immune function; gastrointestinal function; analgesia; additive disease;
                                                                                                  system; nociception;
                                                                                                                                                                                                                                                                                                                                                                                                             Novel isolated variant allele of human kappa opioid receptor gene, u for determining susceptibility in subject to physiological response, condition or disease related to endogenous opioid system.
                                                                                                                                                                                                                        /*tag= a
/standard_name= "Single nucleotide polymorphism"
                                                                   Human kappa opioid receptor, hKOR, A843G allele.
                                                                                        88;
                                                                                       opioid receptor; hKOR;
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        ADN30510 standard; cDNA; 1154
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YUFEROV V.
LAFORGE K S.
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                                                                                       Human; kappa
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The invention relates to an isolated variant allele of a human kappa opioid receptor gene, comprising a DNA sequence having at least one variation in a fully defined wild-type allele of human kappa opioid receptor (DKOR) sequence appearance and an analyse and solated nucleic acid molecule selectively hybridising to the variation an isolated nucleic acid molecule selectively hybridising to the variant, a cloning vector comprising the variant and an origin of replication, an expression vector comprising the variant associated with a promoter, a unicellular host transformed/transfected with the vector and a commercial test kit for determining the presence of a least one variation in a hKOR gene of an allele in abdily sample taken from a subject. The hKCR variant allele is useful for determining a succeptibility in a subject to an a least not proport response, condition or disease related to the at least one physiological response, condition or disease related to tendogenous opioid system, nociception, neurotransmitter release endogenous opioid system, learning, memory, cognition, pain, cocaine, amphetamine and other stimulants self-administration, behavioural sensitisation to cocaine, anopates, alcohol and tobacco, opiate, amphetamine and alcohol withdrawal, physical dependence and tolerance, neuroendocrine function, reproductive function, prolactin regulation, ID NO 6; 29pp; English. Example; SEQ

useful

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stress responsivity, physiology and pathology of mood and affect, immune function, gastrointestinal function. The hKOR variant allele is useful for determining a susceptibility to pain in a subject and is useful for adetermining a therapeutically effective amount of pain reliever to administer to a subject in order to induce analgesia in the subject. The hKOR variant allele is useful for determining a therapeutically effective amount of therapeutic agent to administer to a subject suffering from at least one addictive disease to treat the at least one addictive disease. The gene for hKOR is located on chromosome 8q11.2. The present sequence
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                                                                                                                                                                                                                         Length 1154;
                                                                                                                                                                                                                                                        ;
                                                                                                                                                                                       Sequence 1154 BP; 238 A; 339 C; 288 G; 289 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                        2; Indels
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                                                                                                                                                                                                                      Score 1150.8; DB 12
Pred. No. 1.7e-273;
0; Mismatches 2;
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                                                                                                                                                                                                                      99.78;
                                                                                                                                                        is the A843G allele of hKOR.
                                                                                                                                                                                                                    Query Match
Best Local Similarity 99.8
Matches 1152; Conservative
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                                                                                                                 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGCGGCAGAGCACTAGCAGAGTC 1080
                                                                                                                                                      Novel isolated variant allele of human kappa opioid receptor gene, useful for determining susceptibility in subject to physiological response, condition or disease related to endogenous opioid system.
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                                                                                                                                                                                                                                                                                                                                     Human; kappa opioid receptor; hKOR; ss; gene; SNP; single nucleotide polymorphism; endogenous opioid system; nociception; neurotransmitter release; learning; memory; cognition; pain; cocaine; amphetramine; alcohol; tobacco; opiate; withdrawal; neuroendocrine function; reproductive function; prolactin regulation; stress responsivity; mood; affect; immune function; gastrointestinal function; analgesia; additive disease;
                                                                                                                             TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGGCGGCAGAGCACATCTGCACTAGCAGAGTC
           841 GCGGTCTTCGTCGTCGCTCGCTCCCATTCACATATTCATCCTCGGGGGCTCTCGGGG
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                                                                                      /standard_name= "Single nucleotide polymorphism"
                                                                                                                                                                                                                                                                                                                    Human kappa opioid receptor, hKOR, C1008T allele.
                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
replace(1008,C)
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opioid receptor gene, comprising a DNA sequence having at least one variation in a fully defined wild-type allele of human kappa opioid receptor (hKOR) sequence appearing as ADN30505, where the variation comprises C852T, C94GT, C1008T or their combinations. Also included are an isolated nucleic acid molecule selectively hybridising to the variant, expression vector comprising the variant and an origin of replication, an expression vector comprising the variant associated with a promoter, a unicellular host transformed/transfected with the vector and a commercial test kit for determining the presence of at least one variation in a hKOR gene of an allele in a bodily sample taken from a subject. The hKOR variant allele is useful for determining a susceptibility in a subject to at least one physiological response, condition or disease related to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      endogenous opioid system, neception, neurotransmitter release endogenous opioid system, learning, memory, cognition, pain, cocaine, ampheramine and other stimulants self-administration, behavioural sensitisation to cocaine, opiates, alcohol and tobacco, opiate, ampheramine and alcohol withdrawal, physical dependence and tolerance; neuroendocrine function, reproductive function, prolactin regulation, stress responsivity, physiology and pathology of mood and affect, immune function, gastrointestinal function. The hKOR variant allele is useful for determining a therapeutically effective amount of pain reliever to administer to a subject in order to induce analgesia in the subject. The hKOR variant allele is useful for determining a therapeutically effective amount of pain reliever to
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invention relates to an isolated variant allele of a human kappa
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Pred. No. 1.7e-273;
0; Mismatches 2;
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Novel isolated variant allele of human kappa opioid receptor gene, un for determining susceptibility in subject to physiological response, condition or disease related to endogenous opioid system.

Laforge KS;

Kreek MJ, Yuferov V, (LAFO/) LAFORGE K S.

(KREE/) KREEK M J.

WPI; 2004-389204/36.

13-JUL-2001; 2001US-00904584 14-JUL-2000; 2000US-0218300P

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ACCAACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAAATTTCAAGCGGTGT 1020
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         for hKOR is located on chromosome 8q11.2. The present sequence
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99.7%; Score 1150.8; DB 12; Length 1154;
Best Local Similarity 99.8%; Pred. No. 1.7e-273;
Matches 1152; Conservative 0; Mismatches 2; Indels 0; C
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The invention relates to an isolated variant allele of a human kappa opioid receptor gene, comprising a DNA sequence having at least one variation in a fully defined wild-type allele of human kappa opioid receptor (MCOR) sequence appearing as ADN30505, where the variation comprises C8527, C948T, C1008T or their combinations. Also included are a isolated mucleic acid molecule selectively hybridising to the variant, an expression vector comprising the variant and an origin of replication, an expression vector comprising the variant and an origin of replication, an expression vector comprising the variant associated with a promoter, a cloning vector comprising the variant associated with a promoter, a unicellular host transformed/transfected with the vector and a commercial cest kit for determining the presence of at least one variation in a hKOR gene of an allele in useful for determining a susceptibility in a subject to at least one physiological response, condition or disease related to the endogenous opioid system, learning, memory, cognition, pain, occaine, camphetamine and other stimulants self-administration, pain, occaine, camphetamine and alcohol withdrawal, physical dependence and tolerance; sensitisation to cocaine, opiates, alcohol and tobacco, opiate, amphetamine and alcohol withdrawal, physical dependence and tolerance; consisting the unction, productive function, productive function, productine function, pastrointestinal function. The hKOR variant allele is useful for determining a therapeutically effective amount of pain reliever to a subject in order to induce analgesia in the subject. The KKOR variant allele is useful for amount of therapeutic agent to administer to a subject suffering from an endiative agent to administer to a subject to are treat the at least one additive disease.

The constant allele is useful for treat the at least one additive wing from an endiative agent. Novel isolated variant allele of human kappa opioid receptor gene, useful for determining susceptibility in subject to physiological response, condition or disease related to endogenous opioid system. is located on chromosome 8q11.2. The present sequence Human; kappa opioid receptor; hKOR; ss; gene; SNP; single nucleotide polymorphism; endogenous opioid system; nociception; neurotransmitter release; learning; memory; cognition; pain; cocaine; amphetamine; alcohol; tobacco; opiate; withdrawal; neuroendocrine function; reproductive function; prolactin regulation; stress responsivity; mood; affect; immune function; accounting gastrointestinal function; analgesia; additive disease; /standard name= "Single nucleotide polymorphism" Example; SEQ ID NO 7; 29pp; English. Location/Qualifiers replace(846,C) Laforge KS; 13-JUL-2001; 2001US-00904584 14-JUL-2000; 2000US-0218300P the C846T allele of hKOR *tag= Kreek MJ, Yuferov V, (KREE/) KREEK M J. (YUFE/) YUFEROV V. (LAFO/) LAFORGE K S. WPI; 2004-389204/36. chromosome 8q11.2. US2004097704-A1. sapiens 20-MAY-2004. allele Homo

Sequence 1154 BP; 239 A; 338 C; 287 G; 290 T; 0 U; 0 Other;

Gaps Score 1150.8; DB 12; Length 1154; Pred. No. 1.7e-273; 0; Mismatches 2; Indels 0; 0 Query Match
Best Local Similarity 99.8%;
Matches 1152; Conservative

Human kappa opioid receptor, hKOR, C856T allele.

(first entry)

12-AUG-2004

ADN30511;

ADN30511
ID ADN3
XX
XX
AC ADN3
XX
DT 12-1
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ADN30511 standard; cDNA; 1154 BP

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The invention relates to an isolated variant allele of a human kappa opioid receptor gene, comprising a DNA sequence having at least one variation in a fully defined wild-type allele of human kappa opioid receptor (hKDR) sequence appearing as ADN30505, where the variation comprises C852T, C948T, C1008T or their combinations. Also included are nisolated nucleic acid molecule selectively hybridising to the variant, and expression vector comprising the variant and an origin of replication, an expression vector comprising the variant and an origin of replication, an expression vector comprising the variant associated with a promoter, a unicellular host transformed/transfected with the vector and a commercial cet est kit for determining the presence of at least one variation in a hKOR yariant allele in a bodily sample taken from a subject to at least one physiological response, condition or disease related to the endogenous opioid system, nociception, neurotransmitter release
cendogenous opioid system, learning, memory, cognition, pain, cocaine, amphetamine and other stimulants self-administration, behavioural
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Novel isolated variant allele of human kappa opioid receptor gene, u for determining susceptibility in subject to physiological response, condition or disease related to endogenous opioid system.
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Human; kappa opioid receptor; hKOR; ss; gene; SNP; single nucleotide polymorphism; endogenous opioid system; nociception; neurotransmitter release; learning; memory; cognition; pain; cocaine; amphetamine; alcohol; tobacco; opiate; withdrawal; neuroendocrine function; reproductive function; prolactin regulation; stress responsivity; mood; affect; immune function; agastrointestinal function; analgesia; additive disease;
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Disclosure; Fig 1; 523pp; English
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sensitisation to cocaine, opiates, alcohol and tobacco, opiate, amphetamine and alcohol withdrawal, physical dependence and tolerance; conversed and alcohol withdrawal, physical dependence and tolerance; neuroendocrine function, reproductive function, prolactin regulation, etress responsivity, physiology and pathology of mood and affect, immune contrion, gastrointestinal function. The hKOR variant allets is useful controlled thermining a susceptibility to pain in a subject and is useful for determining a therapeutically effective amount of pain reliever to a subject in order to induce analgesia in the subject. The hKOR variant allels is useful for determining a therapeutically effective amount of therapeutic agent to administer to a subject suffering from at least one addictive disease to treat the at least one additive disease.

The gane for hKOR is located on chromosome 8q11.2. The present sequence is the G36T allele of hKOR.
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                                                                                                                                                                                                                                                                                                                                                                                                                     G protein-coupled receptor; GFCR; antigenic peptide; gene therapy; G protein-coupled receptor modulator; antibody; immune-related disease; growth-related disease; call regeneration-related disease; AIDS; cancer; immunological-related cell proliferative disease; autoimmune disease; Alzheimer's disease; atherosclerosis; infection; osteoarthritis; allergy; osteoporosis; cardiomyopathy; inflammation; Crohn's disease; diabetes; graft versus host disease; Parkinson's disease; multiple sclerosis; pain; psoriaais; anxiety; depression; schizophrenia; dementia; memory loss; mental retardation; epilepsy; asthma; tuberculosis; obesity; nausea; hypertension, hypotension; renal disorder; rheumatoid arthritis; trauma; ulcer; gene; des
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        The present invention describes antigenic peptides (I) comprising: (a) any one of 1601 sequences (see ABP82019 to ABP83619) of 12-24 amino acids. Also described: (1) an assay for the detection of a particular G protein-coupled receptor (GPCR) or a candidate polypeptide in a sample; and (2) an isolated antibody having high specificity and high affinity or avidity for a particular GPCR. (I) can be used as GPCR modulators and in Gene therapy. The antigenic peptides for GPCRs are useful in detecting an antibody against a particular GPCR. (I) can be used to specific antibody against a particular GPCR, and in the production of specific contibodies. The peptides for GPCRs are useful for detecting the presence or absence of corresponding GPCRs. The antigenic peptides for GPCRs and antibodies are useful for diagnosing and designing drugs for treating immune-related diseases, growth-related diseases, call responding immunological-related diseases, call regeneration-related diseases, e.g. AIDS, Alzheimer's disease, atheroseclerosis, bacterial, fungal, protosoman or viral infections, osteoporosis, cancer, cardiomyopathy, chronic and acute diseases, parkinnon's disease, multiple sclerosis, path, psoriasis, cancer, cardiomyopathy, chronic and schemer's disease, parkinnon's disease, multiple sclerosis, path, psoriasis, cancer, cardiomyopathy, chronic and schemer's disease, parkinnon's disease, multiple sclerosis, path, psoriasis, osteoporosis, rheumatoid arthritis, trauma, ulcers, or loss, epilepsy, asthma, tuberculosis, chemetoid arthritis, trauma, ulcers, or supportension, renal disorders, rheumatoid arthritis, trauma, ulcers, or any other disorder in which GPCRs are involved. The antibodies may be completed and immunoassays and immunodiagnosis. AB242523 to AB242869 encode completed or present involved. The present in the present in versent involved.
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quinolinone; leukemia; cancer.
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                                                                                                                                                                                                                                                                                                   The present relates to a method for identifying a compound for treating urological disorders e.g., urinary incontinence including overactive/oversensitive bladder, overflow urinary incontinence, stress urinary incontinence caused by dysfunction of the bladder, urethra or central or peripheral nervous system, prostatitis, benign prostatic hyperplasia, modulating hyperplasia in a cell and treating a subject having a urological disorder. The invention is also used in gene therapy. The present sequence is human kappa opioid receptor 1 (KOR) DNA
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                                                                                                                                                                                                                    Identifying a compound for treating urological disorders, for example urinary incontinence by assaying the ability of the compound to modulate the nucleic acid expression or polypeptide activity.
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                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1182 BP; 245 A; 345 C; 293 G; 299 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                             Disclosure; Page 149-151; Opp; English
                                                                                                                                                       Silos-Santiago I, Karicheti V;
28-FEB-2002; 2002US-0360500P.
15-MAR-2002; 2002US-035641P.
14-AUG-2002; 2002US-0374063P.
14-AUG-2002; 2002US-0403468P.
27-SEP-2002; 2002US-0414562P.
21-OCT-2002; 2002US-0413986F.
05-NOV-2002; 2002US-0423309P.
                                                                                                                          (MILL-) MILLENNIUM PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 99.5
Matches 1148; Conservative
                                                                                                                                                                               WPI; 2003-598705/56.
P-PSDB; AAE38589.
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signalling pathway population; cancer; adenocarcinoma; leukaemia;
immunopathy; AIDS; asthma; neuropathy; Alzheimer's disease; microarray.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCT
                                                                                                                                                                                                                           GGCTCCCGGAGAGAAAGATCGCAACCTGCGTAGGATCACCCAGACTGGTCCTGGTGGTG
                                                                                                                                                                                                                                                                                                  GCAGTCTTCGTTGTCTGCTGGACTCCCATTTCATATTCATCCTGGTGGAGGCTCTGGG
                                                                                                                                                                                                                                                                                                                                      GCGGTTTTCGTCGCTCTGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG
                                                                                                                                                                                                                                                                                                                                                                                                             AGCACCTCCCACAGCAGCTGCTCTCCCAGCTATTACTTCTGCATCGCCTTAGGCTAT
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                                                                                                                                                                                            GGCTCCCGAGAGAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTGTT
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                                                                                    ATCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NO 1417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human signalling pathway polynucleotide probe SEQ ID
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CDNA; 1182
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30-JAN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30-JAN-1998;
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                                                                                                                                                                                                                                                                                         The invention relates to a method of determining whether a patient will respond to treatment with a farnesyl transferase inhibitor (FTI), by analyzing the expression of gene that is differentially modulated in the presence of an FTI. The method is useful for determining whether a patient will respond to treatment with a FTI such as (B)-6-[amino(4-chlorophenyl) (1-methyl-1H-imidazol-5-yl)methyl]-4-(3-chlorophenyl)-1-methyl-2-(if)quinolinone, monitoring the therapy of a patient, treating a patient with leukemia with FTI if the analysis indicates that the patient will respond. This sequence corresponds to a gene whose expression may be modulated in the presence of FTI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGCCTGCCCCCAACAGCAGCGCCTGGTTTCCCGGCTGGGCCGAGCCCGACAGCAACGGC 120
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                                                                                                                                 Determining whether a patient will respond to treatment with a f
transferase inhibitor, by analyzing the expression of gene that
differentially modulated in the presence of the inhibitor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 1182 BP; 245 A; 345 C; 293 G; 299 T; 0 U; 0 Other;
                                                                                                                                                                                                                                            Disclosure; SEQ ID NO 80; 346pp; English.
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                                                                              WPI; 2003-513497/48.
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polynucleotide probes comprising a sequence selected from one of the 1490 sequences mentioned in the specification. The combination is useful as arrayer element in a microarray for monitoring the expression of a number of target polynucleotides. The microarray is particularly useful in the diagnosis and treatment of cancer and immunopathology and neuropathology. The microarray is useful in the diagnosis and treatment regimens, drug discovery and development, toxicological and creatment regimens, drug discovery and development, toxicological and creatment regimens, drug cincoring progression of diseases and for developing sophisticated profiles for the effects of currently available therapeutic drugs. The combination is also useful for purifying a subpopulation of mRNAs, cDNAs and genomic fragments and in research and diagnostic applications. The array can detect changes in expression in a large number of genes coding for different signaling pathway populations which can be used to diagnose various diseases including cancer e.g. adenocarcinoma and leukaemia. Immunopathies e.g. Alzheimer's disease and Parkinson's disease. The present sequence represents a polynucleotide form part of the printed specification but was obtained in electronic format directly from USPTO at the printed specification but was obtained in electronic
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  554 TGCATCTGGCTGCTGTCGTCATCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA 613
                                                                                                                                              674 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC
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                                                                   The invention relates to a composition of polynuclectide probes

comprising first polynuclectide probes comprising at least a portion of a

gene encoding at receptor-like polypeptide, second polynuclectide probes

comprising at least a portion of a gene encoding a transducing

comprising at least a portion of a gene encoding at ransducing

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composition are useful as target polynuclectides. The microarray is useful in the

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contropathology. It can also be used for monitoring the progression of diseases

contropathology. It can also be used for monitoring the progression of diseases

contropathology. As a genomic fragments in a sample. The expression profile

contropathology, e.g. AIDS, diabetes, pancreatitis, osteoporosis or

conterative colitis, or a neuropathology, e.g. dementia, amnesia,

conterative colitis, or a neuropathology, e.g. dementia, amnesia,

content did not form part of the printed specification but was

content of the patent discovery the printed specification but was
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGCCTGCCCCCAACAGCAGCGCCTGGTTTCCCGGCTGGGCCCGAGCCCGACGCAACGGC 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1182 BP; 245 A; 345 C; 293 G; 299 T; 0 U; 0 Other;
                                      ID NO 1417; 73pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        segdata.uspto.gov/sequence.html.
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99.5%;
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                                      Claim 6; SEQ
fragments
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This cDNA sequence comprises the coding region for human kappa opioid receptor (KOR, see AAW30297), a G protein-coupled receptor implicated in receptor (KOR, see AAW30297), a G protein-coupled receptor implicated in enucrotransmission. A novel method for selectivety activating a target cell (TC) comprises: (i) introducing into the cell a nucleic acid sequence (I) that expresses a G protein-coupled receptor (A) modified to be activated superiorly by a synthetic injand (RASE), and (ii) exposing the transfected cell to small synthetic molecules (B) that bind to and activate (A), inducing the G protein coupled cellular response associated with receptor activation. (A) has: (a) decreased binding affinity for a selected natural ligand of the native receptor; (b) binding affinity for selected natural ligand of the native receptor; (b) binding affinity for consistence (B); and (c) is activated by binding (B) aufficiently to produce the required cellular response. Also new are: (1) transgenic cells including heterologous (1); and (4) transgenic non-human animals expressing (A). Activation of (A) results, in vitro or in vivo, in cellular proliferation, or secretion of acillular product, correlatively few cells that are successfully transfected during gene correlatively few cells that are successfully transfected during gene therapy procedures. Other responses that can be regulated are cell migration and contraction, or pigment production. In transgenic animals, expression or stimulation of (A) is designed to develop cardiac arrhythmia, symptoms of bone diseases seizures, vascular contractions, dementia, neurodegeneration etc., for use as models of these diseases (Claimed). The transgenic animals are also used for production of improved food products (e.g. increased calcium content in eggshells or altered facilean ratios) or to control fertility or induce labour. A caltered facilean ratios or to control fertility or induced election of the contraction of the contraction of the contraction of the contraction of the contrac
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                                   Selective activation of target cell expressing modified G protein coupled receptor - allows control of cellular proliferation, especially for amplification of transfected cells in gene therapy.
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Pred. No. 3.5e-271;
0; Mismatches 1;
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/note= "incomplete termination codon"
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(cgn2_6/ptodata/1/ina/5A_COMB.seq:*
(cgn2_6/ptodata/1/ina/5B_COMB.seq:*
(cgn2_6/ptodata/1/ina/6A_COMB.seq:*
(cgn2_6/ptodata/1/ina/6B_COMB.seq:*
(cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
(cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd
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US-09-341-446B-1
US-08-765-743-1
US-09-341-446B-3
US-09-826-509-542
US-09-341-446B-7
US-09-341-446B-7
US-09-341-446B-7
US-09-341-446B-7
US-09-341-446B-7
US-08-147-592A-1
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US-09-761-962A-11
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PCT-US94-10358-3
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Maximum Match 100%
Listing first 45 summaries
                                               nucleic search, using sw model
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Gapop 10.0 , Gapext 1.0
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seq length: 200000000
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Sequence 15, Appl
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Sequence 546, App
Sequence 1, Appli
Sequence 7, Appli
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Sequence 7, Appli
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4, Appli
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Sequence 1, 1
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Sequence 1
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              US-09-016-434-1379
US-09-355-709C-7
US-09-761-962A-4
US-08-387-707-15
US-08-405-271A-15
US-08-826-509-546
US-08-8187-707-7
US-08-8187-707-7
US-08-387-707-7
                                                                                                                     US-09-214-904-3
US-08-432-174A-1
US-08-147-592A-3
US-08-292-694A-3
                                                                                                                                                                              ALIGNMENTS
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Sequence 1417, Application US/09016434

Patent No. 650038

GENERAL INFORMATION:
APPLICANT: Janice Au-Young
APPLICANT: Jeffrey J. Seilhamer
TITLE OF INVENTION: COMPOSITION FOR THE DETECTION OF SIGNALING
TITLE OF INVENTION: PATHWAY GENE EXPRESSION
NUMBER OF SEQUENCES: 1490
CORRESPONDENCE ADDRESS:
ADDRESSEE: INCYTE PHARMACEUTICALS, INC.
STREET: 3174 PORTER DRIVE
CITY: PALO ALTO
STATE: CALIFORNIA
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 1144.4; DB 4; Length 1182; Pred. No. 1.8e-274;
                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: DEM PC compatible
CORRENTING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Word Perfect 6.1 for Windows/MS-DOS 6.2
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/016,434
FILING DATE: HEREWITH
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Zeller, Karen J.
REGISTRATION NUMBER: 37,071
REFERENCE/DOCKET NUMBER: 94,0002 US
TELEPHONE: (650) 85-6155
TELEFAX: (650) 845-4166
INFORMATION FOR SEQ ID NO: 1417:
SEQUENCE CHARACTERISTICS:
LENGTH: 1182 base pairs
TYPE: nucleic acid
TYPE: nucleic acid
TYPE: nucleic acid
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US-09-016-434-1417
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| Oy 1081 CGAAATACAGTTCAGGATCCTGACGGACATCGATGGATGAATAAACCAGTA 1140 | RESULT 2 US-09-341-446B-1 ; Sequence 1, Application US/09341446B ; Patent No. 6518480 ; GENERAL INFORMATION: | ; APPLICANT: Conklin, Bruce R.; ; TITLE OF INVENTION: Selective Target Cell Activation By ; TITLE OF INVENTION: Expression of A G Protein-Coupled Receptor Activated ; TITLE OF INVENTION: Superiorly By Synthetic Ligand ; FILE REFERENCE: UCAL-O49CIP ; CHRRENT APPLICATION NUMBER: US/09/341,4468 | CURRENT FILING DATE: 1999-12-20 PRIOR APPLICATION NUMBER: PCT/US97/05334 PRIOR FILING DATE: 1997-03-25 PRIOR APPLICATION NUMBER: US 08/622,348 PRIOR PILING DATE: 1966-03-26 | NUMBER OF SEQ ID NOS: 12 SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 1 LENGTH: 1143 | o sapiens | | | r1—r1 | | | OY 301 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG 360 | | OY 421 AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTG 480 | OY 481 TGCCACCCGTGAAGGCTTTGGACTTCCGCACACCTTGAAGGCAAAGATCATCAATATC 540 | |
|--|--|--|--|--|--|--|---|--|--|---|---|----|---|---|--|
| Matches 1148; Conservative 0; Mismatches 6; Indels 0; Gaps 0; QY 1 ATGGACTCCCCGATCCAGATCTTCCGGGGGCCCTACCTAGCGCCCCGAGGGCC 60 <td< td=""><td>121 AGCGCCGGCTCGGAGGACGCGCAGCTGGAGCCCGCGCACCTCCCCGGCCATCCCGGTC 180 </td><td>### ##################################</td><td>TACTTG</td><td>361 ATGAATTCCTGGCCTTTTGGGGATGTGCTGCAAGATAGTAATTTCCATTGATTACTAC 420 </td><td>421 AACATGTTGACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTG 480 </td><td>481 IGCCACCCGTGAAGGCTTTGGACTTCCGCACACTTGAAGGCAAAGATCATCATATC 540</td><td>541 IGCATCTGGCTGCTGTCATCTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA 600 </td><td>601 GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC 660 </td><td></td><td>781 GGCTCCCGAGAGAAAGATCGCAACCTGCGTAGGATCACCAACTGGTCCTGGTGGTGGTG 840 </td><td>OY 841 GCAGTCTTCGTTGTCTGCTGCACTCCCATTCACATATTCATCTGTGGAGGCTCTGGGG 900 </td><td>01</td><td>961</td><td>1021</td><td></td></td<> | 121 AGCGCCGGCTCGGAGGACGCGCAGCTGGAGCCCGCGCACCTCCCCGGCCATCCCGGTC 180 | ### ################################## | TACTTG | 361 ATGAATTCCTGGCCTTTTGGGGATGTGCTGCAAGATAGTAATTTCCATTGATTACTAC 420 | 421 AACATGTTGACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTG 480 | 481 IGCCACCCGTGAAGGCTTTGGACTTCCGCACACTTGAAGGCAAAGATCATCATATC 540 | 541 IGCATCTGGCTGCTGTCATCTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA 600 | 601 GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC 660 | | 781 GGCTCCCGAGAGAAAGATCGCAACCTGCGTAGGATCACCAACTGGTCCTGGTGGTGGTG 840 | OY 841 GCAGTCTTCGTTGTCTGCTGCACTCCCATTCACATATTCATCTGTGGAGGCTCTGGGG 900 | 01 | 961 | 1021 | |

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Pred. No. 1.8e-273;
0; Mismatches 1; Indels 0;
APPLICATION NUMBER: FR 94/08531
FILING DATE: 11-JUL-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/FR95/00912
FILING DATE: 07-JUL-1995
ATTORNEY/ABDIT INFORMATION:
NAME: PATCH, Andrew J
REGISTRATION NUMBER: 32,925
FILECOMUNICATION INFORMATION:
TELECOMUNICATION INFORMATION:
TELECOMUNICATION INFORMATION:
TELECOMUNICATION INFORMATION:
TELECOMUNICATION 1000 S0573
TELECAMUNICATION 1000 S0573
TELECAMUNICATION 1112
SEQUENCE CHARACTERISTICS:
LANGETH 1142 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match

Best Local Similarity 99.9%;
Matches 1141; Conservative 0
                                                                                                                                                                                                                                                                                    TYPE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: CDNA
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; LOCATION: 1...1
US-08-765-743-1
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                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                                                                                                                                                              901 AGCACCTCCCACAGACACAGCTGCTCTCCCAGCTATTACTTCTGCATCGCCTTAGGCTAT 960
                                                                                                              GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC
                                                                                                                                                                                                                                                  GCAGTCTTCGTCGTCTGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG
                                                    541 TGCATCTGGCTGCTGTCGTCGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA
                                                                                                                                                           TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC
                                                                                                                                                                                                                              ATCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCT
                                                                                                                                                                                                                                                                                                     GGCTCCCGAGAGAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTGGTG
                                                                                                                                                                                                                                                                                                                       GCAGTCTTCGTTGTCTGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                           AGCACCTCCCACAGCACAGCTGCTCTCCAGCTATTACTTCTGCATCGCCTTAGGCTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/765,743 FILING DATE: 11-FEB-1997 CLASSIFICATION: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER REALABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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| Column C | 173 GCCTGCCCCCAACAGCAGCACCTGGTTCCCGGCCGCCCCCCCC | |
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| TUCCCTGTCCTC 72 TUCCCTGTCCTC 72 TUCCTGTCCTC 72 TUCCTGTCCTTC 72 TUCCTGTCCTTCT 76 TUCCTGTCCTTC 8 TUCCTGTCGGG 9 TUCCTGGGG 9 TUCCTTGGGG 9 TUCCAGGGTGT 1 TUCCAGGTGT 1 TUCCAGGGTGT 1 TUCCAGGTGT 1 TUCCA | 8 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 | 4 |
| TCCCTGTCCTC | | |
| | TUCCTGTCTCT TUCCTGTCTTCT TUCCTGTCTTCT TUCGTGGTGGTG TUCGTGGTGGTG TUCGTGGTGGTGGTG TUCGTGGTGGTGGTG TUCGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTG | TGGACTCCCCGATCCAGATCTTCCGCGGGAGCCGGGGCCTACCTGCGCCCCGAA(|

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TYPE: DNA ORGANISM: Artificial Sequence
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US-09-341-446B-5
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Best Local Similarity
Matches 1061; Conserv
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                      Sequence 542, Application US/09826509

Patent NO. 6806054

GENERAL INFORMATION:
APPLICANT: Lehman-Bruinsma, Karin
APPLICANT: Liaw, Chen W.
TAPLICANT: Liaw, Chen W.
TITLE OF INVENTION: Protein-Coupled Receptors
TITLE OF INVENTION: NO. 6806054-Endogenous, Constitutively Activated Known;
TITLE OF INVENTION: Protein-Coupled Receptors
TITLE OF INVENTION: Protein-Coupled Receptors
FILE REPREBRENCE: ARRN-207
CURRENT APPLICATION NUMBER: 05/105, 747
PRIOR FILING DATE: 2001-04-05
PRIOR PRIOR PAPLICATION NUMBER: 09/170, 496
PRIOR FILING DATE: 1998-10-13
NUMBER OF SEQ ID NOS: 589
SOFTWARE: PatentIn Version 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                            1 ATGGACTCCCCGATCCTCCGCGGGGAGCCGGGCCCTACCTGCGCCCCGAGCGCC
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                                                                                                                                                                                                                                                                                                                                                                    Length 1143;
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                                                                                                                                                                                                                                                                                                         TYPE: DNA
ORGANISM: Homo sapiens
US-09-826-509-542
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GENERAL INFORMATION:

APPLICANT: Conklin, Bruce R.

APPLICANT: Conklin, Bruce R.

TITLE OF INVENTION: Selective Target Cell Activation By

TITLE OF INVENTION: Superioring AG Protein-Coupled Receptor Activated

TITLE OF INVENTION: Superiorily By Synthetic Ligand

TITLE OF INVENTION: Superiorily By Synthetic Ligand

TITLE OF INVENTION: Superiorily By Synthetic Ligand

CURRENT PRILING DATE: 1999-12-20

FRIOR APPLICATION NUMBER: US/09/341,446B

FRIOR APPLICATION NUMBER: PCT/US97/05334

FRIOR PILING DATE: 1995-03-26

FRIOR FILING DATE: 1995-03-26

NUMBER OF SEQ ID NOS: 12

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NOS: 12
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Sequence 7, Application US/09341446B

Sequence 7, Application US/09341446B

Patent No. 6518480

GENERAL INFORMATION:

APPLICANT: CONTAIN, Bruce R.

TITLE OF INVENTION: Selective Target Cell Activation By

TITLE OF INVENTION: Expression of A G Protein-Coupled Receptor Activated

TITLE OF INVENTION: Superiorly By Synthetic Ligand

TITLE OF INVENTION: Superiorly By Synthetic Ligand

TITLE OF INVENTION: 1999-12-20

CURRENT APPLICATION NUMBER: US/09/341,446B

PRIOR FILING DATE: 1997-03-25

PRIOR FILING DATE: 1996-03-26

PRIOR FILING DATE: 1996-03-26

NUMBER OF SEQ ID NOS: 12

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 7
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Pred. No. 3e-237;
0; Mismatches 74; Indels 9;
                                                                                                                                                                                                                                                                                                                                       TYPE: DNA ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                     86.2%;
Best Local Similarity 92.7%;
Matches 1058; Conservative
                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION: RASSL OR2
        1244
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US-09-341-446B-7
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| Db | HO E E E E E E E E E E E E E E E E E E E | COUNTRY: United States of America ZIP: 72210 | APPLICATION NUMBER: 08/100,694 FILING DATE: 30-JUL-1993 CLASSIFICATION: 435 APPLICATION NUMBER: 08/066,296 FILING DATE: 20-MAY-1993 CLASSIFICATION 435 ATTORNEY AGENT INPORMATION: NAME: Wilson, Mark B. REGISTATION NUMBER: 37,259 REFERENCE/DOCKET NUMBER: ARCD: 105 TELECOMMUNICATION INFORMATION: TELEFEX: (512) 414-7577 INFORMATION FOR SEQ ID NO: 1: SEQUENCE CHARACTERISTICS: LENGTH: 1410 base pairs | 2800 007 5. |

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Sequence 1, Application US/08292694A
Patent No. 6319686
GENERAL INFORMATION:
APPLICANT: BELL, GRAEME
APPLICANT: REISINE, TERRY
APPLICANT: YASUDA, KAZUKI
TITLE OF INVENTION: OPIOID RECEPTORS: COMPOSITIONS AND METHODS
NUMBER OF SEQUENCES: 46
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: TBM PC compatible
COPERATING SYSTEM: PC-DOS/MS-DOS/ASCII
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/29,694A
FILING DATE: August 19, 1994
CLASSIFICATION DATA:
APPLICATION NUMBER: 08/066,296
FILING DATE: 20 May 1993
CLASSIFICATION: 435
APPLICATION: WIMBER: 08/147,592
FILING DATE: 5 No. 6319686ember 1993
CLASSIFICATION: 435
APPLICATION NUMBER: 20 May 1994
CLASSIFICATION: 435
APPLICATION NUMBER: 20 May 1994
CLASSIFICATION: 435
APPLICATION NUMBER: 20 May 1994
CLASSIFICATION: AUGUST AUGU
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Pred. No. 5.2e-216;
0; Mismatches 153;
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O. Box 4433
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REGISTRATION NUMBER: 37,259
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (512) 418-3000
TELEFAX: (713) 789-2679
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Best Local Similarity 86.7%;
Matches 1001; Conservative (
                                                                                              TELEX: 79-0924
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                      TGACTAGTCGTGGA 1154
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MOLECULE TYPE: genomic DNA
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186..1325
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STRANDEDNESS: sing
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STATE: Texas
COUNTRY: USA
ZIP: 77210
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STREET: P.
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US-08-292-694A-1
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US-08-292-694A-1
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206 423 266 483 326 543 386 603 446 663 506 723 999 783 626 843 989 903 746 963

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327 CACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGGTCATCAATATCTGC
304 GCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTGATG
                                                                                147 GCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTAGATG
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COMPUTER: IBM FC compatible
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/147,592A
FILING DATE: 05-NOV-1993
CLASSIFICATION: 435
PRIOR APPLICATION NUMBER: 08/100,694
FILING DATE: 30-JUL-1993
CLASSIFICATION: 435
APPLICATION NUMBER: 08/066,296
FILING DATE: 20-MAY-1993
CLASSIFICATION: 435
ATTORNEY/AGENT INPOMMATION:
NAME: Wilson, Mark B.
REGISTRATION NUMBER: 37,259
REFERENCE/POCKET NUMBER: 37,259
REFERENCE/POCKET NUMBER: 37,259
TELEFPAN: (512) 418-3000
TELEFRAN: (512) 474-7577
TELEFRAN: (512) 474-7577
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Pred. No. 3.1e-206;
0; Mismatches 20;
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APPLICANT: Bell, Graeme I
APPLICANT: Bell, Graeme I
APPLICANT: Resistine, Terry
APPLICANT: Yasuda, Kazuki
TITLE OF INVENTION: Opioid Receptor Genes,
TITLE OF INVENTION: Compositions and Methods
NUMBER OF SEQUENCES: 43
CORRESPONDENCE ADDRESS:
ADDRESSEE: Arnold, White & Durkee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: N
LOCATION: 607-608, 642-643, 896, 906
IDENTIFICATION METHOD: N = A, C, G or T
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IDENTIFICATION METHOD: Xaa = unknown
                                                                                                                                                                                                                                                                                                                                                                                                    STATE: Texas
COUNTRY: United States of America
CONTRY: 72210
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                 RESULT 11
US-08-147-592A-11
; Sequence 11, Application US/08147592A
; Patent No. 6096513
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INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 1000 base pairs
TYPE: nucleic acid
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Best Local Similarity 97.5%;
Matches 891; Conservative (
                                                      1326 rgacragregrega 1339
                     TGACTAGTCGTGGA 1154
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LOCATION: 102..986
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STATE: Texas
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964 AACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAACTTCAAGCGGTGTTTC 1023
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604 AGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCCTGG
                                                                                                                                                                                                                                                                                                                                                                                                   567 ATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGANNGTCCGGCTCCTTTCTGGC
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APPLICANT: BELL, GRAEME
APPLICANT: REISINE, TERRY
APPLICANT: YASUDA, KAZUKI
TITLE OF INVENTION: OPIOID RECEPTORS: COMPOSITIONS AND METHODS
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1083
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                                                                                               327 CACCCGGGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATCTGC
                                                                                                                                                        387 ATCTGGCTGCTGTCGTCATCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAGTC
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                                     CACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAGATCATCAATATCTGC
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APPLICANT: Uhl, George R.
APPLICANT: Uhl, George R.
APPLICANT: Bppler, C. Mark
APPLICANT: Wang, Jai-Bel
TITLE OF INVENTION: Mu-Subtype Opi
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSEE: Darby & Darby PC
STREET: 805 Third Avenue
CITY: New York
STATE: New York
COUNTRY: US
ZIP: 10022
COUNTRY: US
ZIP: 10022
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1, Application US/08430286A; Patent No. 6225080; GENERAL THEORY
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                                                   Similarity 97.5%; Score 869.6; DB 3; Similarity 97.5%; Pred. No. 3.1e-206; 31; Conservative 0; Mismatches 20;
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IDENTIFICATION METHOD: N = A, C, G or T
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NAME/KEY: Xaa
LOCATION: 169, 181, 265, 269
IDENTIFICATION METHOD: Xaa = unknown
NUMBER OF SEQUENCES: 46
CORRESPONDENCE ADDRESS:
ADDRESSEE: Arnold, White & Durkee
STREET: P. O. Box 4433
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MOLECULE TYPE: DNA (genomic)
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102..986
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NAME/KEY:
LOCATION:
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Best Local S
Matches 891,
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CCTTAGGCTATACCAACAGTAGCCTGAATCCCATTCTTCTACGCCTTTCTTGATGAAAACT 1009
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        998 CTTTGGGTTACACGAACAGCTGCCTGGATCCAGTTCTTTACGCCTTCCTGGATGAAAACT 1057
938 AAGCGCTGATCACGATTCCAGAAACCACATTTCAGACCGTTTCCTGGCACTTCTGCATTG 997
                                                                                                                                                                                                             TRGTGGTGGCAGTCTTCGTTGTCTGCACTCCCATTCACATATTCATCCTGGTGG
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/889,108
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GENERAL INFORMATION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS:
ADDRESSEE: Arnold, White & Durkee
STREET: P. O. Box 4433
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CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/305,518
FILING DATE:
ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ZIP: 77210-4433
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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STRANDEDNESS: single
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214..1410
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STATE: 1A
COUNTRY: USA
77210-4433
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Pred. No. 5.7e-101;
0; Mismatches 321;
                        COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
FILING DATE: 28-878-1995
CLASSIPICATION: 536
                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: Robinson, Joseph R.
REGISTRATION NUMBER: 33,448
RESTERNEY DOCKET NUMBER: 0646/1A843-US5
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-527-7700
TELEFRAK: 212-53-6237
                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEX: 236687
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 2135 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
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66.9%;
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Best Local Similarity 66.9
Matches 668; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: line
MOLECULE TYPE: C
ORIGINAL SOURCE:
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APPLICANT: Yu, Lei
TITLE OF INVENTION: Mu Opioid Recepi
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: Arnold, White & Durkee
STREET: P. O. Box 4433
                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/08/889,108
FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/305,518
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: Wilson, Mark B.
REGISTRATION NUMBER: 37,259
REFERENCE/DOCKET NUMBER: INC
TELECOMMUNICATION:
TELEPHONE: 512-418-3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           38.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1618 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: DNA (cDNA)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: 512-474-7577
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 1618 base pair:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 66.8
Matches 667; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: nucleic acid
STRANDEDNESS: single
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                                 Sequence 3, Application
; Patent No. 6103492
; GENERAL INFORMATION:
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                                                                                                                                                                                       Houston
                                                                                                                                                                                                                         USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; NAME/KEY;
; LOCATION:
US-08-889-108-3
                                                                                                                                                                                                                         COUNTRY:
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Score 444.8; DB 3;
Pred. No. 1.3e-100;
0; Mismatches 322;
38.5%;
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                                 Conservative
               Similarity
Query Match
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Matches 667;
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Mu Opioid Receptors: Compostions and Methods
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                                                                                                                                                                                                  ZIP: 77210-4433
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 444.8; DB 3;
Pred. No. 1.3e-100;
0; Mismatches 322;
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950 CCTTAGGCTATACCAACAGTAGCCTGAATCCCATTCTCTAGGCCTTTCTTGATGAAAACT 1009
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                                    470 ACATTGCCGTGTGCCACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGA 529
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Search completed: April 6, 2005, 12:39:38 Job time : 218 secs

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GenCore version 5.1.6
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- nucleic search, using sw model OM nucleic

April 6, 2005, 12:28:42; Search time 766.333 Seconds (without alignments) 9125.590 Million cell updates/sec Run on:

US-09-904-584-2 1154

Title: Perfect score:

1 atggactccccgatccagat......ccagtatgactagtcgtgga 1154 Sequence:

IDENTITY NUC Gapop 10.0 , Gapext 1.0 Scoring table:

Total number of hits satisfying chosen parameters: 5615251 segs, 3030001701 residues Searched:

seq length: 0 seq length: 200000000 Minimum DB 8 Maximum DB 8

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Published Applications NA:* Database

/ cgn2_6/ptodata/1/pubpna/US07_PUBCOMB.seq:*
/ cgn2_6/ptodata/1/pubpna/US07_PUBCOMB.seq:*
/ cgn2_6/ptodata/1/pubpna/US06_PUB_PUB.seq:*
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/ cgn2_6/ptodata/1/pubpna/US08_PUBCOMB.seq:*
/ cgn2_6/ptodata/1/pubpna/US08_PUBCOMB.seq:*
/ cgn2_6/ptodata/1/pubpna/US08_PUBCOMB.seq:*
/ cgn2_6/ptodata/1/pubpna/US09_PUBCOMB.seq:*
/ cgn2_6/ptodata/1/pubpna/US09_PUBCOMB.seq:*
/ cgn2_6/ptodata/1/pubpna/US09_PUBCOMB.seq:*
/ cgn2_6/ptodata/1/pubpna/US108_PUBCOMB.seq:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

/cgn2_6/ptodata/1/pubpna/US60_PUBCOMB.seq:*

SUMMARIES

| Description | Sequence 2, Appli | Sequence 1, Appli | Sequence 45, Appl | Sequence 559, App | | Sequence 4, Appli | | | | | Sequence 19, Appl |
|-------------------------------|-------------------|-------------------|-------------------|-------------------|-----------------|-------------------|-----------------|-----------------|-----------------|--------------------|-------------------|
| ΩΙ | US-09-904-584-2 | US-09-904-584-1 | US-10-278-698-45 | US-10-278-698-559 | US-09-904-584-3 | US-09-904-584-4 | US-09-904-584-5 | US-09-904-584-6 | US-09-904-584-7 | US-10-225-567A-147 | US-10-345-680-19 |
| | 11 | 1 | 19 | 19 | 11 | 11 | 11 | 11 | 11 | 15 | 15 |
| * Query Match Length DB | 1154 | 1154 | 1602 | 1602 | 1154 | 1154 | 1154 | 1154 | 1154 | 1182 | 1182 |
| % Query Match | 100.0 | 99.9 | 6.66 | 6.66 | 7.66 | 99.7 | 7.66 | 7.66 | 99.7 | 99.2 | 99.2 |
| Score | 1154 | 1152.4 | 1152.4 | 1152.4 | 1150.8 | 1150.8 | 1150.8 | 1150.8 | 1150.8 | 1144.4 | 1144.4 |
| Result No. | 1 | 7 | m | 4 | S | 9 | 7 | œ | σ | 10 | 11 |

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1 ATGGACTCCCCGATCCAGATCTTCCGCGGGGCCGGGCCCTACCTGCGCCCCGAGCGCC

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| 141 | Sequence 1, Appli Sequence 3, Appli | 21, | 542, | 542, | 'n | ۲, | Sequence 13, Appl | ä | 'n, | - - | | 188 | 18812 | | Н | 'n | 25, | 21, | ~ | 3, Ag | e e | 11, | 급 | ß | ä | r o | 15 | H | ú | e 16 | - |
|------------------|--|--------|------------------|------------------|--------|-------|---------------------|-------|-------------------|--------|------|-------------------------|-------------------------|------|--------------------|-------|-------|---------------------|---------------------|-------------------|--------------------|--------------------|------|---------------------|-------------------|--------------------|------|---------------------|--------------------|-------------|---------------------|
| US-10- US-10- | 16 US-10-318-661-1 16 US-10-318-661-3 | US-10- | US-09-826-509-54 | US-10-925-095-54 | | | 16 US-10-318-661-13 | | 9 US-09-214-904-5 | | | 13 US-10-027-632-188122 | 17 US-10-027-632-188121 | | 10 US-09-841-720-1 | | | 14 US-10-185-083-21 | 14 US-10-185-083-22 | 9 US-09-761-962-3 | 15 US-10-283-300-3 | 9 US-09-761-962-11 | | 14 US-10-185-083-51 | 9 US-09-761-962-1 | 15 US-10-283-300-1 | | 14 US-10-185-083-17 | 9 US-09-761-962-16 | 0-283-300-1 | 14 US-10-185-083-16 |
| 00 | 1143 | | 1143 | | 275 | | 875 | | 1408 | 1911 | 585 | 585 | 585 | | 1618 | | 1464 | 2951 | 1332 | 1334 | 1334 | 1365 | 1365 | 1373 | 1423 | 1423 | 1440 | 1569 | | 1610 | 1614 |
| 99.2 | 98.9 | 98.2 | 97.9 | 97.9 | . 9.98 | 86.2 | 84.9 | 83.5 | 78.8 | 76.1 | 40.6 | 40.6 | 40.6 | 40.6 | 38.5 | 38.5 | 37.7 | 37.6 | 37.6 | 37.6 | 37.6 | 37.6 | 37.6 | 37.6 | 37.6 | 37.6 | 37.6 | 37.6 | 37.6 | 37.6 | 37.6 |
| 1144.4 | 1141.4 | 1133.4 | 1130.2 | 1130.2 | 999.4 | 994.6 | 979.4 | 963.4 | 909.2 | 877.8 | 469 | 469 | 469 | 469 | 444.8 | 444.8 | 434.6 | 434.2 | 434 | 434 | 434 | 434 | 434 | 434 | 434 | 434 | 434 | 434 | 434 | 434 | 434 |
| 12 | 14 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | N | c 26 | c 27 | c 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |

ALIGNMENTS

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                                                                                                                                                        100.0%; Score 1154;
100.0%; Pred. No. 0;
ive 0; Mismatches
                                                                                                                                                        Query Match
Best Local Similarity 100.
Matches 1154; Conservative
                                                                                                                                TYPE: DNA
ORGANISM: homo sapiens
                                                                                                                          LENGTH: 1154
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APPLICANT: Kreek, Mary Jeanne
APPLICANT: Yuferov, Vadim
APPLICANT: Yuferov, Vadim
APPLICANT: Yuferov, Vadim
APPLICANT: LaForge, Kall Steven
TITLE OF INVENTION: Aleles of the Human Kappa Opioid
TITLE OF INVENTION: Receptor Gene, Diagnostic Methods Using Said Allelles, and
TITLE OF INVENTION: Methods of Treatment Based Thereon
TITLE OF INVENTION: Methods of Treatment Based Thereon
TITLE OF INVENTION: Methods of Treatment Based Thereon
TITLE OF INVENTION: MOMBER: US/09/904,584
CURRENT APPLICATION NUMBER: US/09/133
PRIOR FILING DATE: 2000-07-14
NUMBER OF SEQ ID NOS: 7
SOFTWARE: FRSESQ for Windows Version 4.0
SEQ ID NO 1
LENGTH: 1154
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; Pred. No. 0;
0; Mismatches
                                     Sequence 1, Application US/09904584; Publication No. US20040097704A1; GENERAL INFORMATION:
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Best Local Similarity 99.9%;
Matches 1153; Conservative
                                                                                                                                                                                                                                          TYPE: DNA
CORGANISM: homo sapiens
US-09-904-584-1
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                                                                                      ATGAATTCCTGGCCTTTTGGGGATGTGCTGCAAGATAGTAATTTCCATTGATTACTAC
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                                  ATCATCACGGCGGTCTACTCCGTAGTGTTCGTCGTGGGCTTGGTGGGCAACTCGCTGGTC
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GENERAL INVESTATION:

GENERAL INVESTATION:

APPLICANT: Yuferov, Vadim

APPLICANT: Yuferov, Vadim

APPLICANT: Yuferov, Vadim

APPLICANT: Taforge Karl Steven

TITLE OF INVENTION: Alleles of the Human Kappa Opioid

TITLE OF INVENTION: Receptor Gene, Diagnostic Methods Using Said Allelles, and

TITLE OF INVENTION: Methods of Treatment Based Thereon

TITLE OF INVENTION: Methods of Treatment Based Thereon

FILE REPERBOYCE: 6001-285N

CURRENT APPLICATION NUMBER: 60/218,300

PRIOR PELICATION NUMBER: 60/218,300

PRIOR PELICATION NUMBER: 60/218,300

PRIOR PELICATION NUMBER: 60/218,300

PRIOR PELICATION NUMBER: 60/218,300

ARIOR FILING DATE: 2000-07-14

SOFTWARE: FastSEQ for Windows Version 4.0

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 3

LENGTH: 1154

TYPE: DNA

TYPE: DNA

CORGANISM: homo sapiens

US-09-904-584-3
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              GGCTCCCGAGAGAAGAATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTCGTGGTGTT
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                                                                GCAGTCTTCGTTGTTGCTGGACTCCCATTCACATATTCATCTGGTGGAGGCTCTGGGG
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Best Local Similarity 99.8%; Pred. No. 0;
Matches 1152; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; Sequence 3, Application US/09904584; Publication No. US20040097704A1; GENERAL INFORMATION:
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; Publication No. US20050037344A1; GENERAL INFORMATION:
APPLICANT: PathoArray GmbH
APPLICANT: Stuhlmuller, Bruno
APPLICANT: Haupl, Thomas
TITLE OF INVENTION: Nucleic Acid Array
FILE REFREENCE: 030027US
CURRENT APPLICATION NUMBER: US/10/278,698
CURRENT FILING DATE: 2002-10-23
NUMBER OF SEQ ID NOS: 1050
SOFTWARE: PatentIn version 3.2
SEQ ID NO 559
                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 99.9%;
Matches 1153; Conservative C
                                                                                                                                                                                                                                                                   TYPE: DNA
COCANISM: Homo sapiens
US-10-278-698-559
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| TITLE OF INVENTION: Alleles of the Human Kappa Opioid IIILE OF INVENTION: Receptor Gene, Diagnostic Methods Using Said Allelles, and IIILE OF INVENTION: Methods of Treatment Based Thereon FILE REFERENCE: 600-1-285N CURRENT APPLICATION NUMBER: US/09/904,584 CURRENT FILING DATE: 2001-07-13 PRIOR FILING DATE: 2000-07-14 NUMBER OF SEQ ID NOS: 7 SOFTWARE: FastSEG for Windows Version 4.0 SEQ ID NO 4 LENGTH: 1154 TYPE: DNA ORGANISM: homo sapiens US-09-904-584-4 | Query Match Best Local Similarity 99.7%; Score 1150.8; DB 11; Length 1154; Best Local Similarity 99.8%; Pred. No. 0; Matches 1152; Conservative 0; Mismatches 2; Indels 0; Gaps 0; | 0y 1 ATGGACTCCCGGATCCAGATCTTCCGCGGGGGGGCCCTACCTGCGCCCCGAGCGCC 60 | OY 61 TGCCTGCCCCCAACAGCAGGCCTGGTTTCCCGGCTGGGCCGAGCCCGACAGCA 120 | Oy 121 AGCGCCGGCTCGGACGACGCGCACTGGAGCCCGCGCACATCTCCCCGGCCATCCTCGGTC 180 | dy 181 ATCATCACGGGGTCTACTCCGTAGTGTTCGTCGGGCTTGGTGGCGAACTCGCTGGTC 240 bb 181 ATCATCACGGGGTCTACTCCGTAGTGTTCGTCGTGGGGCTTGGTGGGCAACTCGCTGGTC 240 | OY 241 AIGTTCGTGATACACGATACACAAAGATGAAGACAGCAACATTTACATATTTAAC 300 | Oy 301 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG 360 | OY 361 ATGAATTCCTGGCCTTTTGGGGATGTGCTGGAAGATAGTAATTTCCATTGATTACTAC 420 | QY 421 AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTG 480 DD 421 AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGAGCGTGCATGATGCCGTG 480 | OY 481 TGCCACCCGTGAAGGCTTTGGACTTCCGCACACCTTGAAGGCAAAGATCATCATATC 540 | OY 541 TGCATCTGGCTGTCGTCATCTGTGCATCTCTGCAATGTCCTTGGAGGCACCAAA 600 | OY 601 GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC 660 | QY 661 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCTC 720 Db 661 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCTC 720 | \$ | 781 GGCTCCCGAGAAAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGG |
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| 0y 241 ATGTTCGTGATCACCGATGCACGAGGACCGACCTTTACATGTTTAC 300 Db 241 ATGTTCGTGATCATCCGATGCACGAGGCACCCACCTTTTACGTTTTTAC 300 0y 301 CTGGCTTTGGCAGTGCTTACTACACCATGCCCTTTCAGGGTACGGTTACTTC 300 0y 301 CTGGCTTTGGCAGTGCTTACTACACCATGCCCTTTCAGAGTACGGTTACTTC 360 0y 351 ATGAATTCCTGGCCTTTTGGGGATGTGCTGCAGATGAGTACTTACT | OY 481 TGCCACCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATC 540 | OY 541 TGCATCTGGCTGTCGTCATCTGTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA 600 | QY 601 GTCAGGGAAGACGTCGATTCAGTGCTCCTTGCAGTTCCCAGATGATACTCC 660 LIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII | Qy 661 TGGTGGACCTCTTCATGAAGATCTGCGTCTTCATTTGCCTTCGTGATCCCTGTCCTC 720 | Oy 721 ATCATCATCGTCTGCATCATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCT 780 | Oy 781 GGCTCCCGAQAAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTG 840 | Qy 841 GCAGTCTTCGTTGTCTGCTGGACTCCCATTCAATATTCATCCTGGTGGAGGCTCTGGGG 900 Db 841 GCAGTCTTCGTCGTCGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG 900 | OY 901 AGCACTCCCACAGCACAGCTGCTCTCCAGCTATTACTTCTGCATCGCCTTAGGCTAT 960 | Qy 961 ACCAACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAAACTTCAAGGGGTGT 1020 | OY 1021 TICCGGGACTICTGCTTICCACTGAAGAIGAGGAIGGAGCGGCAGAGCACTAGCAGAGTC 1080 1021 TICCGGGACTICTGCTTTCCACTGAAGAIGAGGATGGAGCGCAGAGCACTAGCAGAGTC 1080 | OY 1081 CGAAATACAGTTCAGGATCCTGACGGGACATCGATGGATG | Oy 1141 TGACTAGTCGTGGA 1154 Db 1141 TGACTAGTCGTGGA 1154 | | ; Sequence 4, Application US/09904584 ; Publication No. US20040097704A1 ; GENERAL INFORMATION: Jeanne | ; APPLICANT: YICrov, Vain ; APPLICANT: LaForge, Karl Steven |

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; Publication No. US20040097704A1
; GENERAL INFORMATION:
; APPLICANT: Kreek, Mary Jeanne
; APPLICANT: Lafercy, Vadim
; TITLE OF INVENTION: Alleles of the Human Kappa Opioid
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US-09-904-584-6
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; Sequence 5, Application No. US20040097704A1
; GENERAL INFORMATION:
; APPLICANT: Kreek, Mary Jeanne
; APPLICANT: LaForge, Karl Steven
; APPLICANT: LaForge, Karl Steven
; TITLE OF INVENTION: Alleles of the Human Kappa Opicid
; TITLE OF INVENTION: Receptor Gene, Diagnostic Methods Using Said Allelles, and
; TITLE OF INVENTION: Methods of Treatment Based Thereon
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; TITLE OF INVENTION: Methods of Treatment Based Thereon
; TURRENT FILING DATE: 2001-07-13
; PRIOR APPLICATION NUMBER: 60/218,300
; PRIOR FILING DATE: 2000-07-14
; NUMBER OF SEQ ID NOS: 7
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APPLICANT: Yuferov, Vadim
APPLICANT: LaForge, Karl Steven
TILLE OF INVENTION: Alleles of the Human Kappa Opioid
TILLE OF INVENTION: Alleles of the Human Kappa Opioid
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TITLE OF INVENTION: Methods of Treatment Based Thereon
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THICK PILLING DATE: 2001-07-13
FRIOR APPLICATION NUMBER: 60/218,300
FRIOR PILLING DATE: 2000-07-14
NUMBER OF SEQ ID NOS: 7
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llarity 99.8%; Pred. No. 0;
Conservative 0; Mismatches
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TITLE OF INVENTION: Receptor Gene, Diagnostic Methods Using Said Allelles, and TITLE OF INVENTION: Methods of Treatment Based Thereon FILE REPERBERS: 600-1-285N
CURRENT APPLICATION NUMBER: US/09/904,584
CURRENT FILING DATE: 2001-07-13
PRIOR APPLICATION NUMBER: 60/218,300
PRIOR PILING DATE: 2000-07-14
NUMBER OF SEQ ID NOS: 7
SOFTWARE: FastSEQ for Windows Version 4.0
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Pred. No. 0;
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FILE REFERENCE: 1920-4-4
CURRENT APPLICATION NUMBER: US/10/225,567A
CURRENT FILING DATE: 2001-12-19
PRIOR APPLICATION NUMBER: 60/257,144
PRIOR FILING DATE: 2000-12-19
NUMBER OF SEQ ID NOS: 2292
SOFTWARE: Patentin version 3.1
SEQ ID NO 1477
                                                                                                                                                                                                  Query Match
Best Local Similarity 99.5%;
Matches 1148; Conservative
                                                                                                                        LENGTH: 1182
TYPE: DNA
CRGANISM: Homo sapiens
US-10-225-567A-147
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Sublication No. US20030113798A1
GENERAL INFORMATION:
APPLICANT: LifeSpan Biosciences
APPLICANT: Brown, Joseph P.
APPLICANT: Brown, Joseph P.
APPLICANT: Roush, Christine L.
TITLE OF INVENTION: ANTIGENIC PEPTIDES AND ANTIBODIES FOR G PROTEIN-COUPLED RECEPTORS
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| Oy 1 ATGGACTCCCGATCCAGATCTTCGGGGGGAGCCGGGCCTACCTGCGCCCGAGCGG 1 | 960 Qy 61 TGCCTGCC 973 Db 74 TGCCTGCC | Qy 121 AGGGCGGGTCGGAGGACGCGGAGGTGGAGCCGGGGAACTCGCGGGCATCCCGGGCATCCCGGGCATCCTGGAGGACGCGGGAGGACGCGGGCAACTCTCCCCGGCCATCCCGGTC | Qy 181 ATCATCAGGGGGGTCTACTCCGTAGTGTTCGTGGGGGTTGGTGGGCAACTCGCTGGTGGT | CAGTA 1140 Qy 241 ATGTTCGTGATACATCCGATACACAAAGATGAAGACAGCAACCAAC | Qy 301 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG | Qy 361 ATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAGATAGTAATTCCATTGATTACTAC Db 374 ATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTCCATTGATTACTAC | Qy 421 AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGGGTGGACGGCTACATTGCCGTG b 434 AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACGCTACATTGCCGTG | 0 | 02, 323, 6351 MOLECULES. Oy 541 TGCATCTGGCTGCTGTCGTCGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA | Qy 601 GTCAGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC | Qy 661 TGGTGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTGGTGATCCCTGTCCTC | Qy 721 ATCATCATCGTCTGCTACACCCTGATGATCGTCTGAGAGCGTCCGGCTCCTTTCT | Qy 781 GCTCCCGAGAGAAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTCCTGGTGGTGGTGTGTGT | | 901 A 914 A | Qy 961 ACCAACAGTAGCCTGAATCCCCATTCTCTACGCCTTTCTTGAAAACTTCAAGCGGTGT | Qy 1021 TTCCGGGACTTCTGCTTCTGAAGATGAGATGAGAGGGGGAGAGCACTAGAGTC |
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| Oy 941 GCAGTCTTCGTTGTCTGCTGAACTCCCATTCACATATTCATCCTGGTGGAGGCTCTG Db 854 GCGGTTTTCGTCGTCTGCTGGACTCCCCATTCACATATTCATCCTGGTGGAGGCTCTG | Oy 901 AGCACCTCCCACAGCACAGCTGCTCTCCCAGCTATTACTTCTGCATCGCCTTAGGCTAT | OY 961 ACCAACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAAACTTCAAGCGGTGT | Qy 1021 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGCGGCAGAGCTAGCAGAGTC | Qy 1081 CGAAATACAGTTCCAGGATCCTGCTTACCTGAGGGACATCGATGGATG | Oy 1141 TGACTAGTCGTGGA 1154 | XESULT 11 JS-10-345-680-19 | sequence 19, Application 05/103*3680 ; Sequence 19, Application No. USS01030148394A1 ; GENERAL INFORMATION: ; APPLICANT: Millennium Pharmaceuticals, Inc. | | 8 OR | ; CURRENT FILING DATE: 2003-01-16 ; PRIOR APPLICATION NUMBER: US 60/349,511 ; PRIOR PILING DATE: 2002-01-18 ; PRIOR APPLICATION NUMBER: US 60/360,500 | <pre>prior Filing DATE: 2002-02-28 prior APPLICATION UNMBER: US 60/365,041 prior Filing DATE: 2002-03-15 prior APPLICATION NUMBER: US 60/374,063</pre> | PRIOR FILING DATE: 2002-04-19 PRIOR APPLICATION WOMBER: US 60/403,468 PRIOR FILING DATE: 2002-08-14 PRIOR APPLICATION NUMBER: US 60/414,262 | ; PRIOR FILING DATE: 2002-09-27 ; PRIOR APPLICATION NUMBER: US 60/419,986 ; PRIOR FILING DATE: 2002-10-21 ; PRIOR APPLICATION NUMBER: US 60/423,809 | ; PRIOR FILING DATE: 2002-11-05 ; PRIOR APPLICATION NUMBER: US 60/429,797 ; PRIOR FILING DATE: 2002-11-26 . NIMBER OF SEC IN NOS. 66 | SOFTWARE: PastSEQ for Windows Version 4.0 SEQ ID NO 19 LENGTH: 1182 TYPE: DNA | ; ORGANISM: Homo Sapiens ; PEATURE: ; NAME/KEY: CDS ; LOCATION: (14)(1156) | JS-10-345-680-19 Query Match 99.2%; Score 1144.4; DB 15; Length 1182; |

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GENERAL INFORMATION:
APPLICANT: Ortho-Clinical Diagnostics, Inc.; TITLE REFERENCE: CDS 293 PCT; CURRENT APPLICATION NUMBER: US/10/283,975A; CURRENT FILING DATE: 2002-10-30; PRIOR APPLICATION NUMBER: 60/340,938; PRIOR PILING DATE: 2001-10-30; PRIOR APPLICATION NUMBER: 60/338,997; PRIOR FILING DATE: 2001-10-30; PRIOR FILING DATE: 2001-10-30; PRIOR FILING DATE: 2001-10-30; PRIOR FILING DATE: 2001-10-30; PRIOR FILING DATE: 2001-10-30; PRIOR FILING DATE: 2001-10-30; NUMBER OF SEQ ID NOS: 900; NUMBER OF SEQ ID NOS: 900; SEQ ID NOS: 900
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TYPE: DNA
ORGANISM: HUMAN
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Publication No. US20040010136A1
GENERAL INPORMATION:
TITLE OF INVENTION: Composition for the Detection of Signaling Pathway Gene Expressic TITLE OF INVENTION: Composition for the Detection of Signaling Pathway Gene Expressic TITLE OF INVENTION NUMBER: US/10/305,720
CURRENT PELING DATE: 2002-11-26
PRIOR APPLICATION NUMBER: 09/016,434
PRIOR PILING DATE: 1998-01-30
NUMBER OF SEQ ID NOS: 1490
SOFTWARE: PERL PROGRAM
181 ATCATCACGCCGCTCTACTCCGTAGTGTTCGTCGGGCTTGGTGGGCAACTCGCTGGTC 240
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; OTHER INFORMATION: GenBank ID No. US20040010136A1 g532059
US-10-305-720-1417
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US-10-305-720-1417
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                                                                                                                                    | Sequence 1, Application US/10318661
| Publication No. US20030167456A1
| GENERAL INCRMATION:
| APPLICANT: CONFAITON:
| APPLICANT: CONFAITON: Selective Target Cell Activation By
| TITLE OF INVENTION: Expression of A G Protein-Coupled
| TITLE OF INVENTION: Expression of A G Protein-Coupled
| TITLE OF INVENTION: Expression of A G Protein-Coupled
| FILE REFERENCE: UCAL-049CIP2
| CURRENT PELLING DATE: 109710318,661
| CURRENT PELLING DATE: 1099-12-20
| PRIOR APPLICATION NUMBER: US 09/341,446
| PRIOR PILING DATE: 1999-13-25
| PRIOR PILING DATE: 1999-13-25
| PRIOR PILING DATE: 1999-13-25
| PRIOR PILING DATE: 1996-03-26
| NUMBER OF SEQ 10 NOS: 28
| NUMBER OF SEQ 10 NOS: 28
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Best Local Similarity 99.9%;
Matches 1142; Conservative (
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   DB 16; Length 1284;
                                                            TGGACTCCCCGATCCAGATCTTCCGCGGGGAGCCGGGCCCTACCTGCGC
                             3; Indels
Score 1136.2;
Pred. No. 0;
0; Mismatches
 98.5%;
99.7%;
Query Match 98.5
Best Local Similarity 99.7
Matches 1138; Conservative
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TITLE OF INVENTION: Selective Target Cell Activation By
TITLE OF INVENTION: Selective Target Cell Activation By
TITLE OF INVENTION: Sepression of A G Protein-Coupled Receptor Activated
TITLE OF INVENTION: Superiorly By Synthetic Ligand
TITLE OF INVENTION: UNMERS. US/10/318,661
CURRENT APPLICATION NUMBER: US/10/318,661
PRIOR APPLICATION NUMBER: US 09/341,446
PRIOR PILING DATE: 1999-12-26
PRIOR APPLICATION NUMBER: US 08/341,446
PRIOR PILING DATE: 1999-12-26
PRIOR PELING DATE: 1999-12-26
NUMBER OF SEQ ID NOS: 28
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 3
LENGTH: 1284
                                                                                                                                                                                                                                                                                                                                                                                                                         1020
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US-10-318-661-3
Sequence 3, Application US/10318661
Publication No. US20030167476A1
GENERAL INFORMATION:
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| GenCore version 5.1.6 Copyright (c) 1993 - 2005 Compugen Ltd. | OM nucleic - nucleic search, using sw model | April 6, 2005, 12:28:42 ; Search time 4384.33 Seconds (without alignments) 10018.893 Million cell updates/sec | US-09-904-584-2 1154 1 atggactccccgatccagatccagtatgactagtcgtgga 1154 |
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Scoring table: IDENTITY_NUC Gapop 10.0 , Gapext 1.0 Searched: 34239544 seqs, 19032134700 residues

Total number of hits satisfying chosen parameters: Minimum DB seq length: 0 Maximum DB seq length: 2000000000

68479088

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database : EST:*
1: 9D_eSt1:*
2: 9D_est2:*
3: 9D_htc:*
4: 9D_est3:*
5: 9D_est4:*
6: 9D_est5:*
7: 9D_est5:*
9: 9D_9ss1:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

| | | Description | CB565888 AGENCOURT | CO960667 AGENCOURT | CO960682 AGENCOURT | CF593603 AGENCOURT | BX092912 BX092912 | AK038389 Mus muscu | AK043873 Mus muscu | AK038620 Mus muscu | AK079529 Mus muscu | AY410745 Homo sapi | AK044178 Mus muscu | AK043275 Mus muscu | AK031926 Mus muscu | AY410747 Mus muscu | AL283934 Tetraodon | BX874804 BX874804 | CN439929 BE04021A1 | 9 | BU219878 603749479 | BP214141 BP214141 | BP213719 BP213719 | BB588668 BB588668 | AY410746 Pan trogl | AY400827 Homo sapi |
|-----------|--------|-----------------|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|----------|--------------------|-------------------|-------------------|-------------------|--------------------|--------------------|
| SUMMARIES | | ID | CB565888 | CO960667 | C0960682 | CF593603 | BX092912 | AK038389 | AK043873 | AK038620 | AK079529 | AY410745 | AK044178 | AK043275 | AK031926 | AY410747 | CNS04C2T | BX874804 | CN439929 | BF676176 | BU219878 | BP214141 | BP213719 | BB588668 | AY410746 | AY400827 |
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| | | Match Length DB | 895 | 762 | 784 | 837 | 480 | 2405 | 4022 | 2919 | 2959 | 879 | 2940 | 2974 | 3101 | 879 | 1053 | 775 | 787 | 888 | 917 | 579 | 579 | 657 | 682 | 1176 |
| ф | Query | Match | 9.69 | 50.4 | 45.0 | 40.8 | 40.4 | 37.5 | 36.4 | 31.9 | 31.9 | 30.5 | 29.1 | 28.4 | 28.3 | 28.5 | 26.8 | 24.1 | 23.8 | 23.4 | 23.1 | 22.9 | 22.9 | | 20.0 | 19.8 |
| | | Score | 803.6 | 581.8 | 518.8 | 470.6 | 466.4 | 432.4 | 420 | 367.8 | 367.8 | 352 | 335.6 | 327.4 | 327 | 325.8 | 309.8 | 277.6 | 274.2 | 269.8 | 267 | 264.4 | 263.8 | 239.8 | 231.2 | 228 |
| | Result | No. | 1 | 7 | о С | 4 | ស | 9 | 7 | 80 | Ð | 10 | 11 | 12 | 13 | 14 | c 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |

ORIGIN

| _ | ~ | AK046464 Mus muscu | BM543468 AGENCOURT | BB641725 BB641725 | AY400676 Mus muscu | BQ179053 UI-M-EV0- | | BM342951 fw49h03.y | AK051189 Mus muscu | AY400674 Homo sapi | CR593522 full-leng | AL177778 Tetraodon | CD246184 AGENCOURT | CE517843 tigr-gss- | AL211691 Tetraodon | AL212007 Tetraodon | BU139251 603134091 | BU614716 UI-M-EVO- | CO957761 AGENCOURT | BI754749 603025465 |
|----------|----------|--------------------|--------------------|-------------------|--------------------|--------------------|----------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| BE649947 | AY400829 | AK046464 | BM543468 | BB641725 | AY400676 | BQ179053 | C0934661 | BM342951 | AK051189 | AY400674 | CR593522 | CNS02261 | CD246184 | CE517843 | CNS02SC2 | CNS02SKU | BU139251 | BU614716 | C0957761 | BI754749 |
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| 19.7 | 19.5 | 19.5 | 19.5 | 19.3 | 19.0 | 18.9 | 18.7 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.3 | 18.1 | 18.0 | 18.0 | 18.0 | 17.9 | 17.6 |
| 227.4 | 225 | 225 | 224.6 | 223 | 219.8 | 217.6 | 215.8 | 214 | 213.8 | 213.2 | 213.2 | 213 | 213 | 211 | 208.6 | 208.2 | 207.8 | 207.8 | 206.4 | 203.4 |
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ALIGNMENTS

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CO960667
CO960667.1 GI:51325223
EST.
   895;
   Length
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 Score 803.6; DB 6;
Pred. No. 4.5e-200;
0; Mismatches 24;
                                                           1 ATGGACTCCCCGATCCAGATCTTCCGCGGGGAGCCGGGCC
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EST 17-AUG-2004

ACCESSION VERSION KEYWORDS

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/clone libe "NIHH MGC_146"
//note="wortcor: pcDNA3.1; Site 1: multiple; Site_2:
multiple; ORF's were PCR-amplffied (from IMAGE clones or
from commercially available cDNA libraries) and cloned by
the Guthrie cDNA Resource Center (www.guthrie.org/cDNA)
into pcDNA3.1. For specific information on cloning sites
(which vary by clone), please refer to the Guthrie
website, using the Guthrie ID given in the file
ftp://image.llnl.gov.image.rearrayed_plates/IRBF.preSV.dat
a. Note: this is a NIH_MGC_Library."
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                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 762)
                                                                                                                                                                                                                                                                                National Cancer Institute / NIH
Bldg. 31 Rm10A07 Bethesda, MD 20892
Bldg. 31 Rm10A07 Bethesda, MD 20892
Bnail: cgapbs-remail.nih.og this conter
Tissue Procurement: duthrie cDNA Resource Center
CDNA Library Preparation: Guthrie cDNA Resource Center
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
High quality sequence start: 30
High quality sequence start: 30
High quality sequence stop: 549.
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                                                                                                                                     NIH-WGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Daniela S. Gerhard, Ph.D.
Office of Cancer Genomics
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/organism="Homo sapiens"
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Homo sapiens (human)
Homo sapiens
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/lab_host="MIHOB (T1-phage-resistant)"
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/note="Vector: pcDNĀ3.1; Site l: multiple; Site 2:
/note="Vector: pcDNĀ3.1; Site l: multiple; Site 2:
/note commercially available cDNĀ libraries) and cloned by
the Guthrie cDNĀ Resource Center (www.guthrie.org/cDNĀ)
into pcDNĀ3.1. For specific information on cloning sites
(which vary by clone), please refer to the Guthrie
/website, using the Guthrie ID given in the file
ftp://image.lln1.gov.image.rearrayed_plates/IRBF.preSV.dat
a. Note: this is a NIH_MGC Library."
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E 1 (bases I to 784)

I Unpublished (1999)

L Unpublished (1999)

Contact: Daniela S. Gerhard, Ph.D.

Office of Cancer Genomics

National Cancer Genomics

National Cancer Institute / NIH

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Email: cgapbs-r@mail.nih.gov

Tissue Procurement: Guthrie cDNA Resource Center

CDNA Library Preparation: Guthrie cDNA Resource Center

CDNA Library Preparation: Guthrie cDNA Resource Center

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IMAGE:1389810 3', mRNA sequence.
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387 ATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTTCCATTGATTACTAC 446
                                                                    TGCCACCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATC
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Pred. No. 3.7e-125;
0; Mismatches 12;
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/db_xref="taxon:9606"
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Best Local Similarity 97.6%;
Matches 537; Conservative
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Homo sapiens
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AGENCOURT_15623822 NIH_MGC_147 Homo sapiens cDNA clone
IMAGE:30531690 5', mRNA sequence.
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11H-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC) Unpublished (1999)
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Contact: Daniela S. Gerhard, Ph.D.
Office of Cancer Genomics
National Cancer Institute / NIH
Bldg. 31 RmlOA70 Bethesda, MD 20892
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Stefan Hansson
CDNA Library Preparation: Michael J. Brownstein (NHGRI) with he and advice from Piero Carninci (RIKEN)
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MCC clone distribution information can be through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Right quality sequence stop: 592.
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                                                                                       GATGATGACTACTCCTGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTC
                                                                                                                                                GATGATGACTACTCCTGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTTC
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FEATURES

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Contact: Ina Rolfs
Contact: Ina Rolfs
Rzpb Deutsches Ressourcenzentrum fuer Genomforschung GmbH
Im Neuenheimer Feld 580, D-69120 Heidelberg, Germany
Rzpp; IMAG998B19190.
Rzpp; IMAG998B19190.
RzppLIB; I.M.A.G.E. CDNA Clone Collection;
Human Unigeneset - Rzzb3 (RzpbLiB no.972)
http://www.rzpd.de/CloneCards/Ggj-
bin/EhowLib.pl.cgi/response?libNo=972 Contact: Ina Rolfs
Rzpb Deutsches Ressourcenzentrum fuer Genomforschung GmbH
Heubnerweg 6, D-14059 Berlin, Germany
Tel: +49 30 32639 111
www.rzpd.de
This clone is available royalty-free from RZpD;
contact Rzpb (clone@rzpd.de) for further information. Seg primer:
Ml3r, Primer Sequence: TTYCACACAGGGAAACAGCTATGAC.
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40.4%; Score 466.4; DB 5
Best Local Similarity 99.8%; Pred. No. 2e-111;
Matches 467; Conservative 0; Mismatches 1
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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Human UnigeneSet - RZPD3
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BX092912 Scares placenta Nb2HP Homo sapiens cDNA clone
IMAGp998B19190 ; IMAGE:134322, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           40.8%; Score 470.6; DB 7; Length 837; 99.2%; Pred. No. 1.8e-112; tive 0; Mismatches 4; Indels 0
                                                                                                                                     organism="Homo sapiens"
                            Location/Qualifiers
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DEFINITION

RESULT 5 BX092912

ACCESSION VERSION KEYWORDS SOURCE

ORGANISM

AUTHORS

TITLE

REFERENCE

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/ LTAIN LALL ON HOUSEAGGEONISDCSDPLAPASCSPAPGSWLNLSHVDGNQSDPCG
PRITCLGGSRISLCPOTSSPSWTATINALYSIVCWGLFGNFLVMYIVWYTWKTA
TNIYIFNLALADALATSTLPPGSVNYLMGTWPFGNILCKIVISIDYYNWFTSIFTLCT
MSVDRYIAVCHPVKALDFRTPRNAKIVNVCWMILSSAJGLPWFWATTKYRQSSIDCT
LTFSHPTWYWENLLKICVFIFAFRNAKIVNVCWMILSSAJGLPWFWATTKYRQSSIDCT
LTFSHPTWYWANFIVWTPFPHTYVIITALTITPTRQTVSWHFCIALGSYRSCLNPV
LYAFLDBENFRKCFFERECIPTSSTIEQQNSARIRQPTIAVST
VAQIFTGYPSPTHVERPCKSCMDRGMRNLLPDDGPRQSGSGGGGLGK
VAQIFTGYPSPTHVERPCKSCMDRGMRNLLPDDGPRQSGSGGGGLGK

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| clone_lib="RIKEN full-length enriched mouse cDNA library"
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cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in R Genomic Sciences Center and Genome Science Laboratory in RIKEN Division of Experimental Animal Research in Riken contributed
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                                                                                                                                   prepare mouse tissues.
Please visit our web site for further details.
URL:http://genome.gsc.riken.jp/
URL:http://fantom.gsc.riken.jp/.
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/db_xref="taxon:I0090"
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/db_xref="G1:26332529"
                                                                                                                                                                                                                                                                                                                                                  'organism="Mus musculus"
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/strain="C57BL/6J"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Carninci, P., Shibata, Y., Hayatsu, N., Sugahara, Y., Shibata, K., Itoh, M., Konno, H., Okazaki, Y., Muramatsu, M. and Hayashizaki Y. Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes Genome Res. 10 (10), 1617-1630 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Shibata, K., Itoh, M., Aizawa, K., Nagaoka, S., Sasaki, N., Carninci, P., Konno, H., Akiyama, J., Nishi, K., Kitsunai, T., Tashiro, H., Itoh, M., Sumi, N., Ishii, Y., Nakamura, S., Hazama, M., Nishine, T., Harada, A., Yamamoto, R., Matsumoto, H., Sakaguchi, S., Ikegami, T., Kashiwagi, K., Fujiwake, S., Inoue, K., Togawa, Y., Izawa, M., Ohara, E., Watshiki, M., Yoneda, Y., Ishikawa, T., Ozawa, K., Tanaka, T., Matsuura, S., Kawai, J., Okazaki, Y., Muramatsu, M., Inoue, Y., Kira, A. and Hayashizaki, Y. RIKEN integrated sequence analysis (RISA) system-384-format Genome Res. 10 (11), 1757-1771 (2000)
                                                                                                      HTC 03-APR-2004
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Analysis of the mouse transcriptome based on functional annotation 6 60,770 full-length cDNAs
Nature 420, 563-573 (2002)
6 (bases 1 to 2405)
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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                                                                     2405 bp mRNA linear HTC 03-AE Mus musculus adult male hypothalamus cDNA, RIKEN full-length enriched library, clone:A230002D02 product:opioid receptor, manner sequence.
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Functional annotation of a full-length mouse cDNA collection
Nature 409, 685-690 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Carninci, P. and Hayashizaki, Y.
High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
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/clone_lib="RIKEN full-length enriched mouse cDNA library"
dev_stage="10 days neonate"
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SLALAIAITALYSAVCAVCLLGNVLVMFGIVRYTKLKTATNIYIFNLALADALATSTL
                                                                                                                                                                                                                                                                                                                                                                                                                      Group Phase I & II Team.
Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs
Nature 420, 563-573 (2002)
6 (bases 1 to 4022)
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Encyclopedia Project of Genome Exploration Research Group in Riken
Genomic Sciences Center and Genome Science Laboratory in RIKEN.
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RIKEN integrated sequence analysis (RISA) system--384-format sequencing pipeline with 384 multicapillary sequencer Genome Res. 10 (11), 1757-1771 (2000)
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URL:http://genome.gsc.riken.jp/
URL:http://fantom.gsc.riken.jp/.
Location/Qualifiers
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
                                                                                            TCTCTGCAATAGTCCTTGGAGGCACCAAAGTCAGGGAAGACGTCGATGTCATTGAGTGCT
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High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
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Sadchi, J. Alzawa, K. Akimura, T., Arakawa, T., Bono, H., Carninci, P., Fukuda, S., Furuno, M., Hanagaki, T., Hara, A., Hashizume, W., Fukuda, S., Furuno, M., Hanagaki, T., Hara, A., Hashizume, W., Fukuda, S., Furuno, M., Hiramcto, K., Hiraoka, T., Hirozane, T., Hori, F., Imotani, K., Ishii, Y., Itoh, M., Kagawa, I., Kasukawa, T., Katoh, H., Kawai, J., Kojima, Y., Kondo, S., Konno, H., Kouda, M., Koya, S., Kurihara, C., Matsuyama, T., Miyazaki, A., Murata, M., Nakai, K., Nomura, K., Numazaki, R., Ohno, M., Ohsato, N., Okazaki, Y., Sato, R., Saito, H., Sakai, C., Sakai, K., Sakazume, N., Sogabe, Y., Tangami, M., Tagami, M., Tagami, M., Tagami, M., Tagami, M., Tagami, M., Tagawa, A., Takahashi, F., Takaku-Akahira, S., Takeda, Y., Tanaka, T., Tomaru, A., Toya, T., Yasunishi, A., Muramatsu, M. and Hayashizaki, Y., Yasunishi, A., Muramatsu, M. and Hayashizaki, Y., Tayayi, T., Yasunishi, A., Direct Submission
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Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs
Nature 420, 563-573 (2002)
6 (bases 1 to 2919)
                                                                                                                                                                                                                                                                        Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus.
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                                                                  AK038620
2919 bp mRNA linear HTC 03-APR-Mus musculus adult male hypothalamus CDNA, RIKEN full-length enriched library, clone:A230051A20 product:NOCICEPTIN RECEPTOR (ORPHANIN FQ RECEPTOR), full insert sequence.
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High-efficiency full-length cDNA cloning
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Mammalia; Eutheria; Rodentia;
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Mus musculus (house mouse)
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Nature 409, 685-690 (2001)
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Shibata, K., Itoh, M., Aizawa, K., Nagaoka, S., Sasaki, N., Carninci, P., Konno, H., Akiyama, J., Nishi, K., Kitsunai, T., Tashiro, H., Itoh, M., Sumi, N., Ishii, Y., Nakamura, S., Hazama, M., Nishine, T., Harada, A., Yamamoto, R., Matsumoto, H., Sakaguchi, S., Ikegami, T., Kashiwagi, K., Fujiwake, S., Inoue, K., Togawa, Y., Izawa, M., Ohara, E., Watahiki, M., Yonada, Y., Ishikawa, T., Ozawa, K., Tanaka, T., Matsuura, S., Kawai, J., Okazaki, Y., Muramatsu, M., Inoue, Y., Kira, A. and Hayashizaki, Y. RIKEN integrated sequence analysis (RISA) system-384-format
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PGGTDILLGFWPFGNALCKTV1AIDYYNMFTSTFTLTAMSVDRYVAICHPIRALDVRT

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QVPVLVQGLGQVQPQESETAVAILRECTALGYYNSCLNPILYAFLDENFKACFRRFCCAS

ALHREMQVSDRVRSIAKDVGGCKTSETVPRPA"
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/clone_lib="RIKEN full-length enriched mouse cDNA library"
| dev_stege="adult"
| 178. .1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note="unnamed protein product; NOCICEPTIN RECEPTOR (ORPHANIN FO RECEPTOR) (SWISSPROT | P35377, evidence: FASTX, 97.1%ID, 100%length, match=1135)
                                             Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         213
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       214 GIGGGCTIGGIGGGCAACTCGCTGGICAIGTTCGIGATCATCCGAIACACAAAGAIGAAG 273
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Pred. No. 2.8e-85;
0; Mismatches 337; Indels
                                                                                                                                                       Division of Lighter for further details. Decase visit our web site for further details. URL:http://genome.gsc.riken.jp/.URL:http://fantom.gsc.riken.jp/.
                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Mus musculus"
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/strain="C57BL/6J"
/db_xref="FaNTON DB:A230051A20"
/db_xref="taxon:10090"
/clone="A230051A20"
/sex="male"
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Direct Submission
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PGOTDILLGRWRFGNALCKYTAIDIYNMFTSFTLTMMYDVRYVALCHPIRALDVRT
SSKAQANVAIMALWALLSSVVGVEDKIISSAVVEDERIECLYBIPAPQDYKGPVALCIF
FSFIIPVLIISVCYSLMIRRLRGVRLLSGSREKDRNLRRITRLVLVVVVAVFVGCWTPV
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/db_xref="GI:26348048"
/translation="MESLFPAPFWEVLYGSHFQGNLSLLNETVPHHLLLNASHSAFLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QVFVLVQGLGVQPGSETAVAILRFCTALGYVNSCLNPILYAFLDENFKACFRKFCCAS
ALHREMQVSDRVRSIAKDVGLGCKTSETVPRPA"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="unnamed protein product; NOCICEPTIN RECEPTOR
CORHANIN FO RECEPTOR) (SWISSPROT|P35377, evidence: FASTY,
97.1%ID, 100%length, match=1135)
putative"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Group Phase I & II Team.
Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length CDNAs
Nature 420, 563-573 (2002)
6 (bases 1 to 2959)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /tissue_type="hypothalamus"
/clone_lib="RIKEN full-length enriched mouse cDNA library'
                                                                                                                                                                                                                                                          RIKEN Genome Exploration Research Group Phase II Team and the
                                                                                                                                                                                                                                                                                                                                                                                                                                                               The FANTOM Consortium and the RIKEN Genome Exploration Research
                                                                                                                                                                                                                                                                                                                                     Functional annotation of a full-length mouse cDNA collection
Nature 409, 685-690 (2001)
sequencing pipeline with 384 multicapillary sequencer
Genome Res. 10 (11), 1757-1771 (2000)
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URL.http://genome.gsc.riken.jp/
URL.http://fantom.gsc.riken.jp/.
Location/Qualifiers
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/strain="C57BL/64"
/db_xref="FANTOM_DB:A230027D20"
/db_xref="raxon:10090"
/clone="A230027D20"
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FANTOM Consortium.
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                                                                                                                                                                                                                                                                                   GGACTCCCATTCACATATTCATCATCCTGGTGGAGGCTCTGGGGAGCACCTCCCACAGCACAG 919
                                                                                                                                                                                                                                                                                                                               GGACGCCTGTCCAGGTCTTCGTGCTGGCCCAAGGGCTTCGGGGGTTCAGCCGAGCAGCAGA 652
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
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                                                                                             740 CCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCTGGCTCCCGAGAGAAGATC
                                                                                                                                                                                                                   473 GCCTCATGATCCGGGGGCTCCGTGGAGTCCGCCTGCTCTCGGGGTCCCGAGAAGGACC
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Mus musculus 10 days neonate cortex CDNA, RIKEN full-length
enriched library, clone:A830097K10 product:NOCICEPTIN RECEPTOR
(ORPHANIN FQ RECEPTOR), full insert sequence.
680 AGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTCATCATCATCGTCTGCTACA
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High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
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HTC; CAP trapper.
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Clark,A.G., Glanowski,S., Nielson,R., Thomas,P., Kejariwal,A.,
Todd,M.A., Tanenbaum,D.M., Civello,D.R., Lu,F., Murphy,B.,
Ferriera,S., Wang,G., Zheng,X.H., White,T.J., Sninsky,J.J.,
Adams,M.D. and Cargill,M.
Inferring nonneutral evolution from human-chimp-mouse orthologous
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                                                                                                                                                                                                                                       Craniata; Vertebrata; Euteleostomi;
Catarrhini; Hominidae; Homo.
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Direct Submitted (16-NOV-2003) Celera Genomics, 45 West Gude Drive, Rockville, MD 20850, USA
Rockville, MD 20850, USA
This sequence was made by sequencing genomic exons and ordering them based on alignment.
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VIRTUAL TRANSCRIPT, partial sequence
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Pred. No. 2.9e-81;
0; Mismatches 280; Indels
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/mol_type="genomic DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                    Chordata;
                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
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Best Local Similarity 65.5%;
Matches 549; Conservative
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Mus musculus 7 days neonate cerebellum cDNA, RIKEN full-length enriched library, clone:A730079L19 product:NOCICEPTIN RECEPTOR (ORPHANIN FQ RECEPTOR), full insert sequence.
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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/strain="C57BL/6J"
/db_xref="taxon:10090"
/clone="A830097KI0"
/tissue_type="cortex"
/clone_lib="RIKEN full-length enriched mouse cDNA library"
                                                                                                                                                                                                                                                                                                                                           Carninci, P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (16-JUL-2001) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center (GSC), RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan (E-mail:genome-res@gsc.riken.jp, URL:http://genome.gsc.riken.jp/, Tel:81-45-503-9222,
                                                                                The FANTOM Consortium and the RIKEN Genome Exploration Research Group Phase I & II Team.
Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs
Nature 420, 563-573 (2002)
6 (bases I to 2940)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to
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(SWISSEROT|P35377, evidence: FASTY, 97.1%ID, 100%length,
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Please visit our web site for further details.
URL:http://genome.gsc.riken.jp/.
URL:http://fantom.gsc.riken.jp/.
Location/Qualifiers
1. .2940
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larity 61.9%; Pred. No. 8.3e-77;
Conservative 0; Mismatches 339;
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/dev_stage="7 days neonate"
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/note="putative"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The FANTOM Consortium and the RIKEN Genome Exploration Research Group Phase I & II Team.
Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs
Nature 420, 563-573 (2002)
6 (bases I to 2974)
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Submitted (16-JUL-2001) Yoshihide Hayashizaki, The Institute of
                                                                                                                                                                     Carninci, P., Shibata, Y., Hayatsu, N., Sugahara, Y., Shibata, K., Itoh, M., Konno, H., Okazaki, Y., Muramatsu, M. and Hayashizaki, Y. Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new Genome Res. 10 (10), 1617-1630 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the RIKEN Genome Exploration Research Group Phase II Team and
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Functional annotation of a full-length mouse CDNA collection
Nature 409, 685-650 (2001)
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URL:http://genome.gsc.riken.jp/
URL:http://fantom.gsc.riken.jp/.
Location/Qualifiers
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/etrain="C57BL/6J"
/db_xref="FANTOM_DB:A730079L19"
/db_xref="taxon:10090"
/clone="A730079L19"
      cloning
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   High-efficiency full-length cDNA
Meth. Enzymol. 303, 19-44 (1999)
99279253
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Yokohama

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/tissue_type="medulla oblongata"
/clone_lib="RIKEN full-length enriched mouse cDNA library"
/dev stage="adult"
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                                      RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokoham Kanagawa 230-0045, Japan (E-mail:genome-res@gec.riken.jp, VRL:http://genome.gec.riken.jp/, Tel:81-45-503-922, Fax:81-45-503-9216)

CDNA library was prepared and sequenced in Mouse Genome Exploration Research Group in Rike Genomic Science Compared and Sequenced in Mouse Genome In Rike Genomic Science Center and Genome Exploration Research Group in Riken Division of Experimental Animal Research in Riken contributed to
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(SWISSPROT | P35377, evidence: FASTY, 97.1%ID, 100%length,
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Exploration Research Group, RIKEN Genomic Sciences Center
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Loature 420, 563-573 (2002)

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S Adachi, J., Alzawa, K., Akimura, T., Hara, A., Hashizume, W., Hayashida, K., Hayatsu, N., Hiramoto, K., Hiraoka, T., Hirozane, T., Hottl, F., Imotrani, K., Ishii, Y., Itoh, M., Kagawa, I., Kasukawa, T., Katch, H., Kawai, J., Kojima, Y., Kondo, S., Konno, H., Kawai, J., Kojima, Y., Kondo, S., Konno, H., Kawai, J., Mahi, K., Nomura, K., Numazaki, R., Ohno, M., Ohsato, N., Okazaki, Y., Saito, R., Saitoh, H., Sakai, C., Sakai, K., Sakazume, N., Sano, H., Sasaki, Y., Saito, R., Saitoh, H., Sakai, C., Sakai, K., Sakazume, N., Sano, H., Sasaki, Y., Saito, R., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., Shibata, K., 
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                                                                                                                                                                                                                                                                                                                                                                                                  AK031926
Mus musculus adult male medulla oblongata cDNA, RIKEN full-length enriched library, clone:6330500C19 product:NOCICEPTIN RECEPTOR (ORPHANIN FO RECEPTOR), full insert sequence.
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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Nature 409, 685-690 (2001)
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CNSO4C2T 1053 bp DNA linear GSS 01-SEP-2000 Tetraodon nigroviridis genome survey sequence PUC-Ori end of clone 098B06 of library G from Tetraodon nigroviridis, genomic survey
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AL289341. GI:8022304
AL289341. GI:8022304
GSS; genome survey sequence.
Tetracdon nigroviridis
Tetracocan ingroviridis
Eukaryota; Metacoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
Acatthomorpha; Acanthopterygii; Percomorpha; Tetracodontiformes;
Tetradontoidea; Tetracodontifae;
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Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Ferriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J., Adams, M.D. and Cargill, M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Inferring nonneutral evolution from human-chimp-mouse orthologous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (16-NOV-2003) Celera Genomics, 45 West Gude Drive, Rockville, MD 20850, USA This sequence was made by sequencing genomic exons and ordering them based on alignment.
                                                                                                                          1111 AGACCGGAACCTGCGACGCATCACACGGCTGGTACTGGTAGTTGTGGCTGTTTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Ferriera, S., Mang, G., Zheng, X.H., White, T.J., Sninsky, J.J., Adams, M.D. and Cargill, M.
     GCTACAGCCTCATGATTCGACGACTTCGTGGTGTCCGGCTGCTTTCAGGCTCCCGAGAGA
                                                                                                                                                                                                  854 TCTGCTGGACTCCCATTCACATATCCATCTGGTGGAGGCTCTGGGAGCACCTCCCACA
                                                                                                                                                                                                                                                                                                                                                                                                                          TGAATCCCATTCTCTAGGCCTTTCTTGATGAAAACTTCAAGCGGTGTTTCCGGGGACTTCT
                                                                                           AAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTGGTGGCAGTCTTCGTTG
                                                                                                                                                                                                                                                                                                              GCACAGCTGCTCTCCAGCTATTACTTCTGCATCGCCTTAGGCTATACCAACAGTAGCC
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llarity 63.5%; Pred. No. 2.3e-74;
Conservative 0; Mismatches 297;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Science 302 (5652), 1960-1963 (2003)
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/organism="Mus musculus"
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/db_xref="taxon:10090"
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/gene="OPRL1"
/locus_tag="HCM3993"
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genomic survey sequence.
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Direct Submission

Burnett Submission

Submitted (12-APR-2000) Genoscope - Centre National de Sequencage :

BP 191 91006 EWRY cedex - FRANCE (E-mail : seqref@genoscope.cns.fr - Web : www.genoscope.cns.fr)

This sequence is a single read and was generated as part of a large scape clone-end sequencing project of the Tetraodon nigroviridis genome. For more information, please take a look at http://www.genoscope.cns.fr/Tetraodon.

Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7;
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Roest Crollius, H., Jaillon, O., Dasilva, C., Bouneau, L., Fisher, C., Bernot, A., Fizames, C., Wincker, P., Brottier, P., Quetier, F., Saurin, W. and Weissenbach, J.
                     Estimate of human gene number provided by genome-wide analysis using Tetraodon nigroviridis DNA sequence Nat. Genet. 25 (2), 235-238 (2000)
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                                                                                                                                                 Roest Crollius, H., Jaillon, O., Dasilva, C., Ozouf-Costaz, C., Fizames, C., Fischer, C., Bouneau, L., Billault, A., Quetier, F., Saurin, W., Bernot, A. and Weissenbach, J. Characterization and repeat analysis of the compact genome of Ereahwater pufferfish Tetraodon nigroviridis
Genome Res. 10 (7), 939-949 (2000)
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/organism="Tetraodon nigroviridis"
/organism="Tetraodon nigroviridis"
/mol_type="genomic DNA"
/db xief="taxon:99883"
/clone="098806"
/clone="1098806"
/note="Genoscope sequence ID : C0BG098DA03SP1-end PUC-Ori"
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Pred. No. 3.9e-70;
8; Mismatches 230; Indels
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65.3%;
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  729
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CTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTCATCATC
                                                     504 ACGACCATGAAGGICTGCGTGTTCATCTTCGCCTTTGTGGTTCCCGTCCTGGTCATCACC
                                                                                                             GTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCTGGCTCCCGA
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earch completed: April 6, 2005, 22:01:26 ob time : 4390.33 secs

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April 6, 2005, 12:28:42; Search time 5374.67 Seconds (without alignments) 10403.867 Million cell updates/sec GenCore version 5.1.6 Copyright (c) 1993 - 2005 Compugen Ltd. OM nucleic - nucleic search, using sw model Run on:

US-09-904-584-3 1154 1 atggactccccgatccagat......ccagtatgactagtcgtgga 1154

Title: Perfect score: Sequence:

IDENTITY NUC Gapop 10.0 , Gapext 1.0 Scoring table:

9416466 4708233 segs, 24227607955 residues Total number of hits satisfying chosen parameters:

Searched:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries GenEmbl:* Database :

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gb_bh:**

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Description | Ul7298 Human kappa | CO723157 Seguence | L37362 Homo sapien | AR270854 Sequence | AX548862 Sequence | AX774764 Sequence | U11053 Human kappa | AR281679 Sequence | A48343 Sequence 1 | AR141371 Sequence | AF498922 Homo sapi | AR281680 Sequence | AX280919 Sequence | AY168006 Homo sapi | AR281681 Sequence | AR281682 Sequence | U04092 Cavia porce | D16534 Rattus norv | |
|-------------------------------|--------------------|-------------------|--------------------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|--------------------|-------------------|-------------------|--------------------|--------------------|------------|
| QI | HSU17298 | C0723157 | HUMOPRK1B | AR270854 | AX548862 | AX774764 | HSU11053 | AR281679 | A48343 | AR141371 | AF498922 | AR281680 | AX280919 | AY168006 | AR281681 | AR281682 | 0 CPU04092 | 0 RATRORD | 0 RATKOR1A |
| * Query Match Length DB | 1154 9 | 1179 6 | 1604 9 | 1182 6 | 1182 6 | 1182 6 | 1182 9 | 1143 6 | 1142 6 | 1142 6 | 1143 9 | 1284 6 | 1143 6 | 1396 9 | 1275 6 | 1275 6 | 1733 1 | 1273 1 | 1358 1 |
| % Query Match | 6.66 | 99.9 | 6.66 | 99.2 | 99.2 | 99.5 | 99.3 | 98.9 | 98.8 | 98.8 | 98.6 | 98.5 | 97.9 | 91.6 | 96.6 | 86.2 | 90.6 | 79.3 | 79.3 |
| Score | 1152.4 | 1152.4 | 1152.4 | 1144.4 | 1144.4 | 1144.4 | 1144.4 | 1141.4 | 1140.4 | 1140.4 | 1138.2 | 1136.2 | 1130.2 | 1056.8 | 999.4 | 994.6 | 930.6 | 915.6 | 915.6 |
| Result No. | H | 7 | m | 4 | S | 9 | 7 | 80 | σ, | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |

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ALIGNMENTS

| HSU17298 1154 bp mRNA linear PRI 14-JUL-1995 Human kappa opioid receptor (hKOR) mRNA, complete cds. U17298 U17298.1 GI:596069 Homo sapiens (human) | | Chiromosomal assignment, functional expression, pharmacology, and expression pattern in the central nervous system Proc. Natl. Acad. Sci. U.S.A. 92 (15), 7006-7010 (1995) 95350200 7624359 12 (1895) | Mansson, E., Bare, L. and Yang, D. Isolation of a human kappa opioid receptor cDNA from placenta Biochem. Biophys. Res. Commun. 202 (3), 1431-1437 (1994) 8060324 3 (Dases I to 1154) Kieffer, B. Direct Submission | Submitted (18-NOV-1994) Brigitte Kieffer, Ecole Superieure De Biotechnologie De Strasbourg, Boulevard Sebastien Brandt, IllKirch, 67400, France Location/Qualifiers 1.1154 /organism="Homo sapiens" /mol_type="mRNA" /mol_type="mRNA" /db_xref="taxon:9606" /chromosome="8" /map="891:1.12" /m | 1. 1154 1. 1154 /gene="hKOR" |
|--|-------------------------------|---|---|--|------------------------------------|
| RESULT 1 HSU17298 LOCUS DEFINITION ACCESSION VERSION KEYWORDS SOURCE ORGCANISM | REFERENCE AUTHORS TITLE | JOURNAL MEDLINE PUBMED REFERENCE | AUTHORS TITLE JOURNAL MEDLINE PUBMED REFERENCE AUTHORS TITLE | JOURNAL FEATURES SOURCE | gene |

| Db 781 GGCTCCCGAGAGAAACTCGCATAGGATCACCAGACTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGG | Qy 1021 TTCCGGGACTTCTGCTTTCCACTGAGATGAGGACGCGCAGAGCTC 1080 Db 1021 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGACGACGAGACTCTAGCAGAGTC 1080 Cy 1081 CGAAATACAGTTCAGGATCCTGCTTACCTCAGGGACATCGATGAGATGAATAAACCAGTA 1140 Db 1081 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGAGATAAACCAGTA 1140 Qy 1141 TGACTAGTCGTGGA 1154 Db 1141 TGACTAGTCGTGGA 1154 | | AUTHORS Venter, C.J., Adams, M.C., Li, P.W. and Myers, B.W. TITLE Rits, such as nucleic acid arrays, comprising a majority of humanexons or transcripts, for detecting expression and other uses thereof JOURNAL Patent: WO 1206879-A 9091 06-SEP-2002; PEATURES Location (NY) (US) FEATURES Location Qualifiers Jorganism="Homo sapiens" /mol_type="unassigned DNA" /db_xref="taxon:9606" | Query Match 99.9%; Score 1152.4; DB 6; Length 1179; Best Local Similarity 99.9%; Pred. No. 9.9e-202; 0; Adaps 0; Gaps 0; Matches 1153; Conservative 0; Mismatches 1; Indels 0; Gaps 0; Qy 1 ATGGACTCCCGGATCCTGGGGGGGGGGGGGCCCTACCTGCGCCCCGAGCGC 60 1 ATGGACTCCCCGATCCTGCGGGGGGGGGGGGGCCCTACCTGCGCCCCGAGCGC 60 Db 11 ATGGACTCCCCGATCTTCCGGGGGGGGGGGGGGCCCTACCTGCGCCCCGAGCGC 70 | Oy 121 AGCCCGCCAACAGCAGCCCTGGTTTCCCGGCTGGCCGAGCCCGACAGCAACAGC 120 Db 71 TGCCTGCCCCCAACAGCAGCGCCTGGTTTCCCGGCTGGGCCGAAGCCGACAGCAACAGC 130 Oy 121 AGCCCGGCTCGAAGCAGCGCTGGTTTCCCCGGCTATCCCCGGCTTGGTGGCTC 180 Db 131 AGCGCCGGCTCGGAGGAGCCGCAGCTGGTGCCGCCATCCCGGTC 190 Oy 181 ATCATCACGGCGGTCTACTCCGTAGTTCGTCGTGGGGCAACTCGCTGGTC 240 Db 191 ATCATCACGGCGGTCTACTCCGTAGTTCGTCGTGGGGCAACTCGCTGGTC 250 |
|---|--|-----|---|---|--|
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Euteleostomi;

us-09-904-584-3.rge

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Cloning of a human .kappa. opioid receptor from the brain Life Sci. 56, 201-207 (1995)
Coiginal source text: Homo sapiens (clone d2-115) (tissue library: genomic in lambda dash and cDNA in lambda ZAPII) fetus brain cDNA to mRNA.
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HUMOPRKIB 1604 bp mRNA linear PRI 22-MAR-1995
Homo sapiens (clone d2-115) kappa opioid receptor (OPRKI) mRNA,
complete cds.
L37362
L37362.1 GI:722617
OPRKI gene; kappa opioid receptor; opioid receptor.

DEFINITION

ACCESSION VERSION KEYWORDS

| CTGGACCGCTACATTGCCGTG 480 Query Match 99.2%; Score 1144.4; DB 6; | Oy 1 ATGGACTCCCCGATCCAGATCTTCCGCGGGAGCCGGGCCCTACCTGC | ATAGICCTIGGAGGCACCAA 60 61 TGCCTGCCCCCCAACAGCAACGCACCACAGCAGCACCCCCAACAGCAACGCACCCCAACAGCAACAGCAACAGCAACAGCAACAGCAACAGCAACAGCACCCCAAAAAA | Oy 121 AGGGCGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG | 181 ATCATCAGGGGGTCTACTCGTAGTGGGGGTTTGGTGGGCTAGGGGAACTCGTAGTGGTGGGCTTGGTGGGCAACTCGTGGTGGGCTTGGTGGGCAACTCGTGGTGGGCTTGGTGGGCAACTCGTGGTGGGCTTGGTGGGCAACTCGTGGGCTTGGTGGGCTTGGTGGGCAACTCGTGGGCTTGGTGGGCTTGGTGGGCAACTCGTGGGCTTGGTGGGCAACTCGTGGGCTTGGTGGGCTTGGTGGGCAACTCGTGGGCTTGGTGGGCAACTCGTGGGCAACTCGTGGGCTTGGTGGGCTTGGTGGGCAACTCGTGGGCTTGGTGGGCAACTCGTGGGCAACTCGTGGGCAACTCGTGGGCTTGGTGGGCTTGGTGGGCAACTCGTGGGCAACTCGTGGGCAACTCGTGGGCAACTCGTGGGCAACTCGTAGTGTTGGTGGTGGGCTTGGTGGGCAACTCGTAGTGGTGGGCTTGGTGGGCAACTCGTAGTGGTGGGCAACTCGTAGTGGTGGGCTTGGTGGGCAACTCGTAGTGGTGGGCAACTCGTAGTGGTGGGCAACTCGTAGTGGTGGGCAACTCGTAGTGGTGGGCTTGGTGGGCAACTCGTAGTGGTGGGCAACTCGTAGTGGTGGGCAACTCGTAGTGGTGGGCAACTCGTAGTGGTGGGCAACTCGTAGTGGTGGGCAACTCGTAGTGGTGGGCAACTCGTAGTGGTGGGCAACTCGTAGTGGTGGGCAACTCGAACTCAACTAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACTCAACT | AAGAGCGTCCGGCTCCTTTCT 780 Qy 241 ATGTTCGTGATCATCATCATAACACAAAGATGAAGACAGCAACCAAC | AGACTIGGTCCTGGTGGTG 840 Qy 301 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCTTTCAGAGTACGGTCTTAGTTACTACAACATGCCTTTCAGAGTACGGTCTACTTG | Oy 361 AIGAATTCCTGGCGTTTTGGGGATGTGCTGGCATGTGCTGGCATGTGCTGGGATGTACTACTACTACTACTACTACTACTACTACTACTACTACT | Oy 421 AACATGTTCACCAGCATCTTCACCATGATGATGATGACGGTGACGGTGGACGGCTACATTGACGTAGAGGGTGGACGGCTACATTGCCGTG | CGATGABABACTITCABGCGTGT 1020 | SCGCCAGAGCACTAGCAGTC 1080 QY 541 TGCATCTGGTGCTGTCGTCATCTTGGCATCTTGGCATCTTGGCATCTTGGAGGCACCAAA | CGATGGGATGAATAAACCAGTA 1140 Qy 601 GTCAGGGAAGACGTCGATGATGATCATTGAGTGCTCCTTGCAGTTCCATGATCACTCC | Oy 661 TGGTGGGACCTCTTCATGAAGATCTGGGTCTTCATCTTGCCTTCGTGATCCT | 1inear PAT 10-APR-2003 | Qy 841 GCAGTCTTCGTCGTCTGCTGGACTCCCATTCACATATTCATCCTGGTGGAGG | Qy 901 pathway gene expression Db 914 | G 6 1 A CARACTECA |
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| AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGGGTGGACGGCTACATTGC | TGCCACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCATATC | TGCATCTGGCTGCTGTCGTCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA | GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC | TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGT | ATCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCCAAGAGCGTCCGGCTCCTTTCT | GGCTCCCGAGAGAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGT | GCAGTCTTCGTCGTCGTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCT | AGCACCTCCCACAGCAGCTGCTCTCCAGCTATTACTTCTGCATTGCCTTAGGCTAT | ACCAACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAACTTCAAGCGGTGT | TTCCGGGACTTCTGCTTTCCACTGAAGATGAGATGGAGCGGCAGAGCACTAGCAGGTC | GGAAATACAGTTCAGGATCCTGCTTACCTGAGGACATGGATGG | TGACTAGTCGTGGA 1154 TGACTAGTCGTGGA 1531 | AR270854 117 from patent US 6500938. SEQUENCE 1417 from patent US 6500938. AR270884.1 GI:29702088 | Unknown. Unknown. Tholasaffied | is 1 (bases 1 to 1182) S Au-Young, J. and Seilhamer, J.J. Composition for the detection of signaling L. Patent: US 650038-A 1417 31-DEC-2002; | Location/Qualifiers |

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| 254 AIGHTHINNIN THE THE THE THE THE THE THE THE THE THE | 314 CIGGCTITGGCAGAIGCTITAGTIACIACAACCAIGCCCITITCAGAGIACGGICII 361 AIGBATHCCTIGGCCHTTTAGGGGAAGTGCTGGGBAGTAGAAGAAATAAGAATAAGAATTGAAATAAGAATAAGAATAAGAATTGAAATAAGAATAAGAATAAGAATAAGAATAAGAATAAGAATTGAAATAAGAATAAGAATAAGAATAAGAATTGAAATAAGAATAAGAATAAGAATAAGAATAAGAATTGAAATAAGAATAAGAATAAGAATAAGAATAAGAATAAGAATAAGAATAAGAATAAGAATTAAGAAG |

| Db 1034 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGCGCCAGAGCACTAGCAGAGTC 1093 Qy 1081 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGAGATAAACCAGTA 1140 Db 1094 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGATG | RESULT 7 HSU11053 LOCUS LOCUS HSU11053 LOCUS DEFINITION Human kappa opioid receptor (hKOR) mRNA, complete cds. ACCESSION U11053.1 GI:532059 KRYMORDS COUNCE Home canions (human) | NISM Homo Sapiens Eukaryota; Me Mammalia; Eut NCE I (bases I t ORS Mansson, E., B E Isolation of E Biochem, Biop | 94338300 8060324 2 (bases 1 Mansson,E. Direct Submi Submitted (2 PPD, 100 Mou | SOURCE 11184 / Library sapiens" / Mol_type="mRNA" / db_xref="taxon:9606" / clone="phK1.3" / tissue_type="placenta" gene 11182 | | / CDZ.TETE.T. 1332.000 / LTAINS 1 & 1.01. "MESPIQIFRCEPGPTCAPSACLPPNSSAWFPCWAEPDSNGSAGS / LTAINS 1 & 1.01. "MESPIQIFRCEPGPTCAPSACLPPNSSAWFPCWAEPDSNGSAGS / LADAL PTYMPFQSTVYTMNSWPFGDVLCKIVISIDYYNMFTISIFTLTWMSVDRYITAV LADALLYTTYMPFQSTVYTMNSWPFGDVLCKIVISIDYYNMFTISIFTLTWMSVDRYITAV CHPVKALDFRTPLKAKININICIMILSSSVGTSATIVGGTKVREDVDVIECSLOFPDDD YSWWDLFWKICKPTPLKAKININICINICIALISKSVAFCIALGSTRSKUDRNIKRITRLV LVVVARVVCWTNITINICIALGSTSSTYFCIALGSTRSKUDRNIKRITRLV ENFRYCFRDFCFPLKAMRRQSTSRVARNYVQDPAYLRGIDGANAKPV" | ORIGIN Query Match Query Match Best Local Similarity 99.5%; Pred. No. 2.9e-200; Matches 1148; Conservative 0; Mismatches 6; Indels 0; Gaps 0; Qy 1 ATGAACTCCCCAACTACATCTTCCGCGGGAGCCCCTACCTGCGCCCCCAAGGGCC 60 | Db 14 ATGGATCCCCGATTCGGGGGGGGCTGCCTGCCCCGGGGGGGC 73 Qy 61 TGCTGCCCCCAACAGCAGGCCTGGTTTCCCGGCTGGGCCCGAGCCCGACGCCC 73 T4 TGCTGCCCCCCAACAGCAGCCTGGTTTCCCGGCTGGGCCGAGCCGACAGCACGC 133 Qy 121 AGCGCCGGCTCGGAGAGCGCGCGCCGCCCGCCCACCCGGCCT 180 Db 134 AGCGCCGGCTCGGAGAGCGCGCGCCCCCCCCCCCCCCCC | |
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| Best Local Similarity 99.5%; Pred. No. 2.9e-200; Matches 1148; Conservative 0; Mismatches 6; Indels 0; Gaps 0; Ostation 0; Ostat | QY 121 AGCGCCGGCTCGGAGCTCGAGCCCGCGCACATCTCCCCGGCCATCCCGGTC 180 bb | Qy 241 ATGTTCGTGATCACCGATACACAAGATGAAGACGAACCAACATTTACATATTTAAC 300 Db 254 ATGTTCGTGATCATCCGATACACAAAGATGAAGCAGCAACCAAC | Qy 361 ATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTTCCATTGATTACTAC 420 Db 374 ATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAGATAGTAATTTCCATTGATTACTAC 433 Qy 421 AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTG 480 Db 434 AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTG 493 | Qy 481 IGCCACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATC 540 Db 494 IGCCACCCCGTGAAGGCTTTGGAACTACCCACCCTTGAAGGCAAAGATCATAATC 553 Qy 541 IGCATCTGGCTGTCGTCATCTGTTGGCATCACTGCAAAAGGCACCAAA 600 | 554 1GCATCTGGCTGCTCGTCATCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA 601 GTCAGGGAAGACGTCGATGACTGCTCCTTGCAGTTCCCAGATGATGACTACC 1 | OY 661 IGGGGGGCCTCTTCANGAGATCTGCGTCTTGATCTTGCTTGCTTCTTTGCTT 720 | QY 781 GCCTCCCGAGAGAACATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTG 840 Db 794 GGCTCCCGGAGAGAACATCGCAACCTGCGTAGGATCACCAGACTGGTCGTGGTGGTG 853 QY 841 GCAGTCTTCGTCGTCGTGGACTCCCATTCACATATTCATCCTGGTGGAGCTCTGGGG 900 Db 854 GCGGTTTTCGTCGTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG 913 | QY 901 AGCACCTCCCACAGCACAGCTGCTTCTCCAGCTATTACTTCTGCATTGGCTAT 960 Db 914 AGCACCTCCCACAGCACCTCTCTCCAGCTATTACTTCTGCATCGCCTTAGGCTAT 973 QY 961 ACCAACAGTAGCCTGAATCCCTTCTCTCATGAAAAACTTCAAGCGGTGT 1020 Db 974 ACCAACAGTAGCCTGAATCCCATTCTCTAGGCCTTTCTTGATGAAAACTTCAAGCGGTGT 1033 QY 1021 TTCCGGGACTTCTCACTTCCATTCTTTCTTGATGAAAAACTTCAAGCAGAGTC 1080 | |

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                                                                                   Selective target cell activation by expression of a G
protein-coupled receptor activated superiorly by synthetic ligand
Patent: US 6518480-A 1 11-FEB-2003;
Location/Qualifiers
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Pred. No. 1e-199;
0; Mismatches 1; Indels

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/organism="unknown"
/mol_type="genomic DNA"

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Best Local Similarity 99.9%;
Matches 1142; Conservative
                                                    Unclassified.
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BDQ.LEPAHISPALYTWYLAYGVYCHVORISVEWAEVTWYTWATTHIYTHEN BLADALVYTTWRPGOTYLCKTVISIDYYTWRFTSIFTLTWMSWPSTYIAY
CHPVKALDFRTPLKAKIINICIWLLSSSVGISAIVLGGTKVREDVUVIECSLQFPDDD
YVWWDLFWKICVFIPARVIPULIIVCYTLMILLKKSYRLLGGSREKDRNLRRITRLV
LVVVVWTPIHHFILVBARGSTSSKYRTSTALSSYYFCIALGYTRAY
BNFKRCFRDFCPPLAGTSTSTATALSSYYFCIALGYTRSINPILYAFLD
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                     GGCTCCCCGAGAGAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTG
                                                             GCAGTCTTCGTCGTCTGCTGGACTCCCATTCACATATTCATCTGGTGGAGGCTCTGGGG
                                                                             GCAGTCTTCGTCGTCTGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG
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Kieffer, B. and Simonin, F.
Kieffer, B. and Simonin, F.
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/note="unnamed protein product"
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Location/Qualifiers
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/mol_type="unassigned DNA"
/db_xref="taxon:32644"
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/db_xref="GI:2302134"
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mRNA linear PRI 01-MAY-2002 (OPRK1) mRNA, complete cds.
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1 (bases 1 to 1143)

1 (bases 1 to 1143)

Puhl, H.L., Ikeda, S.R. and Aronstam, R.S.

Direct Submission

Submitted (05-ARR-2002) cDNA Resource Center, Guthrie Research Institute, One Guthrie Square, Sayre, PA 18840, USA

Location/Qualifiers

1. 1143

/organism="Homo" sapiens"
                                                                                                                                                       GCAGTCTTCGTCGTCTGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG
    TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC
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/db_xref="taxon:9606"
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                                                                                                                                                                          Kieffer, B. and Simonin, F.
Human kappa opioid receptor, nucleic acids
Patent: US 6146835-A 1 14-NOV-2000;
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                    DB 6;
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Pred. No. 1.6e-199;
0; Mismatches 1;

    1142
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                                                                Sequence 1 from patent US 6146835.
AR141371
                                                                                                            GI:15100887
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| Matches 1135; Conservative 0; Mismatches 8; Indels 0; Gaps 0 Qy | Qy 61 TGCCTGCCCCCAACAGCAGCGCCTGGTTTCCCGGCTGGGCCGACCCGACAGCAACGGC 120 bb 61 TGCCTGCCCCCCAACAGCGCCTGGTTTCCCGGCTGGGCCGAACGCCCAACAGCAACAGCAACGGC 120 | Qy 121 AGGGCGGCTGGAGACGCGGAGCTGGAGCCGGGCACATCTCCCGGCCATCCCGGTC 180 | Qy 181 ATCATCAGGGGGTCTACTCCGTAGTGTTCGTCGTGGGCTTGGTGGGCAACTCGCTGGTC 240 bb 181 ATCATCAGGGGGTCTACTCCGTAGTGTTCGTCGTGGGCTTGGTGGCAACTCGCTGGTC 240 | Oy 241 ATGTTCGTGATCACCGATACACAAAGATGAAGACGAACCAACATTTACATATTTAAC 300 | Qy 301 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACCGTCTACTTG 360 | Qy 361 ATGRATICCTGGCCTITITGGGGATGTGCTGTGCAGATAGTAATTTCCATTGATTACTAC 420 | QY 421 AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCCTGGACCGCTACATTGCCGTG 480 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII | QY 481 TGCCACCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATC 540 bb 481 TGCCACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATAATC 540 | Oy 541 TGCATCTGGCTGCTCTCTCTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA 600 | QY 601 GTCAGGGAAGACGTCCATGCAGTCCCTTGCAGTTCCCAGATGATGACTACTCC 660 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII | Qy 661 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATTGCCTTCGTGATCCCTGTCCTC 720 Db 661 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCTGTCCTC 720 Qy 721 ATCATCATCGTCTGCTCACACCCTGATGATCCTGGGTCTCAAGAGGGTCCGGCTCCTTTCT 780 Db 721 ATCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCT 780 | QY 781 GGCTCCCGAGAGAAGATCGCAACCTGCGTAGGATCACCAGACTGGTGGTGGTGGTG 840 1 | QY 841 GCAGTCTTGGTCGTCGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG 900 | Oy 901 AGCACCTCCCACAGCACAGCACTACTACTTCTGCATTACCTTAGGCTAT 960 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII | Oy 961 ACCAACAGIAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAACTTCAAGCGGTGT 1020 | Qy 1021 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGACGGCAGAGCACTAGCAGTGTC 1080 |
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| Db 593 GCCACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCATATCT 652 Qy 542 GCATCTGGCTGCTCGTCTTGTTGGCATCTTGGAATCCTTGGAGGCACCAAAG 601 Db 653 GCATCTGGCTGTTGTTGGCATCTTGTGCAATGTCCTTGGAGGCACCAAAG 712 | OY 602 TCAGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGACTACTCCT 661 | Qy 662 GGTGGGACCTCTTCATGAGATCTGCGTCTTCATCTTTGCCTTGTGATCCCTGTCCTCA 721 Db 773 GGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCTCT 832 | Qy 722 TCATCATCGTGCTACACCCTGATGATCCTGCGGTCTCAAGAGCGTCCGGCTCCTTTCTG 781 | Oy 782 GCTCCCGAAGAAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCGTGGTGGTGG 841 | OY 842 CAGTCTTCGTCGTCGACTCCCATTCACATATTCATCGTGGAGGTCTGGGGA 901 | OY 902 GCACCTCCCACAGCAGCTGCTCTCTCCAGCTATTACTTCTGCATTGCCTTAGGCTATA 961 | Oy 962 CCAACAGTAGCCTGAATCCCATTCTTGATGAAACTTCAAGGGGTTT 1021 L | OY 1022 TCCGGGACTTCTGCTTTCCACTGAAGATGAGGACGGCAGAGCACTAGCAGGAGTCC 1081 | OY 1082 GAAATACAGTTCAGGATCCTGCTTACCTGAGGACATGGATGAATAAACCAGTAT 1141 | Oy 1142 G 1142 Db 1253 G 1253 | RESULT 13 AX280919 LOCUS LOCUS DRFINITION Sequence 542 from Patent W00177172. ACCESSION AX280919 WERSION AX280919. UBRSION AX280919.1 GI:16608215 | Homo sapiens (human) M Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eut | in.I.L. vated known g p | NAL | | OMIGIN Query Match Best Local Similarity 99.3%; Pred. No. 1.2e-197; |

us-09-904-584-3.rge

| Db 495 CTGGCTTTTGGCAGATGCTTTACTACAACCATGCCCTTTCAGAGTACGGTCTTTG 554 | OY 481 TGCCACCCGTGAAGGCTTTGGACTTCCGCACCCTTGAAGGCAAAGATCATCATGATATC 540 | QY 601 GTCAGGAAQACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC 660 Db 795 GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC 854 QY 661 TGGTGGAACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTTGTCCTTGTGTCTCTC 720 Db 855 TGGTGGAACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCTC 914 | Qy 721 ATCATCATCGTCGCTACACCCTGATGATCCTCCAAGAGCGTCCGGCTCCTTTCT 780 Db 915 ATCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCT 974 Qy 781 GGCTCCCGAGAAAAGATCGCAACCTGGTAGGATCACCAGACTGGTCCTGGTGGTGGTG 840 Db 975 GGCTCCCGAGAGAAAGATCGCAACCTGCGTAGGATCACCAGACTGGTGGTGGTGGTG 1034 | | 1021 TTCCGGACTTCCCTTCCACTGAAGATGAGGATGGAGCGCAGAGCACTACCAGAGGTC 1215 TTCCGGGACTTCTCCTTTCCACTGAAGATGGAGGATGGAGCGCCAGAGCACTAGCAGAGTC | Qy 1081 CGAAATACAGTTCAGGATCCTGAGGGCACATGGGATGAATAAACCAGTA 1140 Db 1275 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGATG | RESULT 15 AR281681 LOCUES DEFINITION Sequence 5 from patent US 6518480. ACCESSION AR281681.1 GI:29717436 VURSION AR281681.1 GI:29717436 SOURCE ORGANISM Unknown. ORGANISM (Labses 1 to 1275) AUTHORS CONKLIN, B.K. AUTHORS Soluctive target cell activation by expression of a G protein-coupled receptor activated superiorly by synthetic ligand |
|--|--|---|---|--|---|--|--|
| Qy 1081 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAACCAGTA 1140 Db 1081 CGAAATACAGGATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAACCAGTA 1140 Qy 1141 TGA 1143 Db 1141 TGA 1143 | RESULT 14 AY168006 LOCUS AY168006 LOCUS DEFINITION Homo sapiens DRG kappa 1 splice variant KOR 1A mRNA, complete cds, ACCESSION AY168006 VERSION AY168006 AY | Homo sapiens (human) M Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostom Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 1396) Lu,L.D. and Mansson, E. Direct Submission | molecular blology, Adolor Colporation, 3 friers no sapiens" NA" on:9606" | /note="opioid receptor kappa 1A; alternatively spliced" /codon_start=1 /product="DRG kappa 1 splice variant KOR 1A" /protein_id="AAN87342.1" /brotein_id="AAN87342.1" /brotein_id="d1.2733028" /translation="WOSPIOIRFGEPEPTCAPSACLPPNSSAGSEDAQLEPAHISPAI PVIITAVYSVVFVVGLVGNSLVMFVIIRYTKMKTATNIYIFNLALADALVTTTMPFGS TVYLMNSWPEPEDALCKIVISIDYXNMFTSIFFTTMMSVDRYATAVCHPYKALDPFTPLK AKINICIWLLSSSYGISAYLGGYRKVREDVDVJEGSLQFPDDDSSWMDLPKKICVFI RAFVIPVLIIIVCYTLMILLKSVRLLSGSREKDNURRITRLULVVVAVFVVCWTPI HTILVBRAGSTSHSTALSSSYFGTALGYTRANSSLANPILYAFLDENFKRCFRDFCFPL WANNENDOGGRENDWINGDRANSYTVIN EDITOMAKTVII | ORIGIN Query Match Best Local Similarity 96.2%: Pred. No. 3.7e-184; | 1110; Conservative (1 ATGGACTCCCCGATCCAGA: 237 ATGGACTCCCCCGATCCAGA: 61 TGCCTGCCCCCCAACAGCACACACACACACACACACACAC | OY 121 AGCGCCGGCTCCGGAGCTCGCAGCCCGCCACATCTCCCCGGCCATCCCGGTC 180 |

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                                                                                                                                      2 TGGACTCCCCGATCCAGATCTTCCGCGGGAGCCGGGCCCTACCTGCGCCCCGAGCGCCT
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                                                                                      Similarity 93.0%; Pred. No. 1.3e-173; 1; Conservative 0; Mismatches 71;
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Location/Qualifiers
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6, 2005, 12:28:42; Search time 700.667 Seconds (without alignments) 9749.831 Million cell updates/sec April

Run on:

US-09-904-584-3

Title: Perfect score:

1 atggactccccgatccagat.......ccagtatgactagtcgtgga 1154 Sequence:

Scoring table:

IDENTITY_NUC Gapop 10.0 , Gapext 1.0

4390206 segs, 2959870667 residues Searched:

8780412

seq length: 0 seq length: 2000000000 Minimum DB Maximum DB

Total number of hits satisfying chosen parameters:

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

N_Geneseq_16Dec04: Database

geneseqn2003cs:* geneseqn2003ds:* geneseqn2004as:* geneseqn2002bs:* geneseqn2003as:* geneseqn2003bs:* geneseqn2000s:* geneseqn2001as:* geneseqn2001bs: geneseqn1990s:* geneseqn1980s:

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

geneseqn2004bs:*

SUMMARIES

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| DB | 12 | 12 | 13 | 12 | 12 | 12 | 12 | 12 | ۵ | 2 | 2 | 10 | 12 | 7 | N | ~ | 11 | 12 | S | 8 |
| % Query Match Length DB | 1154 | 1154 | 1154 | 1154 | 1154 | 1154 | 1154 | 1154 | 1182 | 1182 | 1182 | 1182 | 1182 | 1143 | 1142 | 1284 | 1284 | 1143 | 1143 | 1275 |
| * Query Match | 100.0 | 6.66 | 6.66 | 99.7 | 7.66 | 7.66 | 99.7 | 7.66 | 99.2 | 99.5 | 99.5 | 99.5 | 99.5 | 98.9 | 98.8 | 98.5 | 98.5 | 98.2 | 97.9 | 96.6 |
| Score | 1154 | 1152.4 | 1152.4 | 1150.8 | 1150.8 | 1150.8 | 1150.8 | 1150.8 | 1144.4 | 1144.4 | 1144.4 | 1144.4 | 1144.4 | 1141.4 | 1140.4 | 1136.2 | 1136.2 | 1133.4 | 1130.2 | 999.4 |
| Result No. | - | 7 | m | 4 | S | 9 | 7 | 8 | 6 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |

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| ADL90108 ADL90110 ADL90116 ADL90118 AAV49254 | AAQ75926 ADR44860 AAQ86725 ADR44862 | ADO30301 ADL90120 AAQ75931 AAF85416 | ADR44848 AAQ89222 AAQ89223 AAA59499 AAQ79199 ADR44835 | ADR44842 ADR44876 AAV61994 ADG42250 ADR44830 ADR44837 |
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ALIGNMENTS

Human; kappa opioid receptor; hKOR; ss; gene; SNP; single nucleotide polymorphism; endogenous opioid system; nociception; neurotransmitter release; learning; memory; cognition; pain; cocaine; amphetamine; alcohol; tobacco; opiate; withdrawal; neuroendocrine function; reproductive function; prolactin regulation; stress responsivity; mood; affect; immune function; agastrointestinal function; analgesia; additive disease; Human kappa opioid receptor, hKOR, C948T allele. ADN30507 standard; cDNA; 1154 BP. (first entry) chromosome 8q11.2. Homo sapiens 12-AUG-2004 ADN30507; ADN3050

/standard name= "Single nucleotide polymorphism" Location/Qualifiers replace (948, C) /*tag= Key allele

US2004097704-A1

20-MAY-2004

13-JUL-2001; 2001US-00904584.

14-JUL-2000; 2000US-0218300P

(KREE/) KREEK M J. (YUFE/) YUFEROV V. (LAFO/) LAFORGE K S.

Laforge KS; Kreek MJ, Yuferov V,

VPI; 2004-389204/36

Novel isolated variant allele of human kappa opioid receptor gene, useful

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                                                                                                                                  The invention relates to an isolated variant allele of a human kappa opioid receptor gene, comprising a DNA sequence having at least one variation in a fully defined wild-type allele of human kappa opioid receptor (MCOR) sequence appearing a ADN30505, where the variation redector in the fully defined wild-type allele of human kappa opioid creceptor (MCOR) sequence appearing a ADN30505, where the variation comprises C852T, C948T, C1008T or their combinations. Also included are a isolated nucleic acid molecule selectively hybridishing to the variant, a cloning vector comprising the variant associated with a promoter, a cloning vector comprising the variant associated with a promoter, a unicellular host transformed/transfected with the vector and a commercial test kit for determining the presence of at least one variation in a hKOR gene of an allele in a bodily sample taken from a subject. The hKOR covariant allele is useful for determining a susceptibility in a subject to at least one physiological response, condition or disease related to the endogenous opioid system, learning, memory, cognition, pain, occaine, camphetamine and other stimulants self-administration, behavioural complete and alcohol withdrawal, physical dependence and tolerance; amphetamine and alcohol withdrawal, physical dependence and tolerance; camphetamine and alcohol withdrawal, physical dependence and tolerance; consurcendocrine function, reproductive function, productin regulation, stress responsivity, physiology and pathology of mood and affect, immune for determining a therapeutically effective amount of pain reliever to determining a therapeutic agent to pain in a subject and is useful for determining a therapeutic agent to amount of a subject in order to induce analgesia in the subject or moder to read the allele is useful for determining a therapeutic agent to determining a therapeutic agent to determining a therapeutic agent to determining a therapeutic agent to determining a therapeutic agent to determining a defendence and order to
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for determining susceptibility in subject to physiological response, condition or disease related to endogenous opioid system.
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Best Local Similarity 100.0%; Score 1154; DB 12; Length 1154;
Best Local Similarity 100.0%; Pred. No. 2.7e-273;
Matches 1154; Conservative 0; Mismatches 0; Indels 0;
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                                                                                              Example; SEQ ID NO 3; 29pp; English
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replace(36,T)
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us-09-904-584-3.rng

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opioid receptor gene, comprising a DNA sequence having at least one variation in a fully defined wild-type allele of human kappa opioid receptor (MCOR) sequence appearing as ADN30605, where the variation creceptor (MCOR) sequence appearing as ADN30605, where the variation of comprises CB52T, C948T, C1008T or their combinations. Also included are an isolated nucleic acid molecule selectively hybridising to the variant, as a cloning vector comprising the variant and an origin of replication, an expression vector comprising the variant associated with a promoter, a unicellular host transformed/transfected with the vector and a commercial cet kit for determining the presence of at least one variation in a hKOR gene of an allele in a bodily sample taken from a subject. The hKOR variant allele is useful for determining a susceptibility in a subject to at least one physiological response, condition or disease related to the endogenous opioid system, nociception, neurotransmitter release endogenous opioid system, learning, memory, cognition, pain, cocaine, amphetanine and other stimulants self-administration, behavioural
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel isolated variant allele of human kappa opioid receptor gene, useful for determining susceptibility in subject to physiological response, condition or disease related to endogenous opioid system.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       determining a therapeutically effective amount of pain reliever to administer to a subject in order to induce analgesia in the subject. The hKOR variant allele is useful for determining a therapeutically effective
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sensitisation to cocaine, opiates, alcohol and tobacco, opiate, amphetamine and alcohol withdrawal, physical dependence and tolerance; neuroendocrine function, reproductive function, prolactin regulation, stress responsivity, physiology and pathology of mood and affect, immune function, gastrointesinal function. The hKOR variant allele is useful for determining a susceptibility to pain in a subject and is useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      amount of therapeutic agent to administer to a subject suffering from at least one addictive disease. The gene for hKOR is located on chromosome 8q11.2. The present sequence
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Sequence 1154 BP; 239 A; 339 C; 287 G; 289 T; 0 U; 0 Other;

99.9%; Score 1152.4; DB 12; Length 1154; 99.9%; Pred. No. 6.7e-273; Best Local Similarity Query Match

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| Conservative 0; Mism | ATGGACTCCCGGATCCAGATCTTCCGC | TGCCTGCCCCCAACAGCAGCGCCTGG | GCCTGCCCCCAACAGCAGCGCCTGG | GCGCCGGCTCGGAGGACGCGCGCGCTGG | TCATCACGCGGTCTACTCCGTAGTG | TGTTCGTGATCATCCGATACACAAAG | TGTTCGTGATCATCGATACACAAAG | 1GGCTTTGGCAGATGCTTTAGTTACT | TGAATTCCTGGCCTTTTGGGGATGTG | | ACATGTTCACCAGCATCTTCACCTTG | GCCACCCGTGAAGGCTTTGGACTTCC | GCCACCCGTGAAGGCTTTGGACTT | CAT CAT | TCAGGGAAGACGTCGATGTCATTGAG1 | rcaggaagacgrcgargrcarrgag | TGGTGGGACCTCTTCATGAAGATCTGCC | TCATCATCGTCTGCTACACCCTGATG | TCATCATCGTCTGCTACACCCTGAT | GCTCCCGAGAGAAGATCGCAACCT | CAGTCTTCGTCGTCTGCTGGACTCCCA | CAGTCTTCGTCGTCTGCTGGACTCCC | GCACCTCCCACAGCACAGCTGCTCTCT | caccrecacadeacadererer | 5=5 | CCGGGACTTCTGCTTTCCACT | |
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                        The present invention describes a vector for delivering an opioid receptor to a nerve cell. The method comprises a sequence encoding an opioid receptor and a vector backbone. Also described: (1) a cell comprising the vector or its integrated product; (2) an animal comprising the cell; (3) reducing pain in a subject; (4) producing the vector or the animal produced by the process of administering the vector to the animal. The vector has analgesic activity, and can be used in gene therapy. The vector is useful in preparing a composition for reducing pain in a subject. The present exequence encodes the human kappa opioid receptor, which is used in the exemplification of the present invention. The human kappa opioid receptor gene is located on chromosome 8, more specifically to 8q11-12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New vector for delivering an opioid receptor to a nerve cell comprising sequence encoding a mu-opioid receptor and a vector backbone, useful in preparing a composition for reducing pain.
                                                                                                                                                                                                                 opioid receptor; nerve cell; analgesic; gene therapy; pain; human;
kappa opioid receptor; chromosome 8; gene; ss.
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Pred. No. 6.7e-273;
0; Mismatches 1; Indels 0;
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The invention relates to an isolated variant allele of a human kappa opicid receptor gene, comprising a DNA sequence having at least one variation in a fully defined wild-type allele of human kappa opicid receptor (HKOR) sequence appearing as ADN10505, where the variation comprises C8527, C9487, C1008T or their combinations. Also included are an isolated nucleic acid molecule selectively hybridising to the variant a cloning vector comprising the variant and an origin of replication, an expression vector comprising the variant associated with a promoter, a unicellular host transformed/transfected with the vector and a commercial test kit for determining the presence of at least one variation in a hKOR gene of an allele in a bodily sample taken from a subject to wariant allele is useful for determining a susceptibility in a subject to an allele in the proper continuation of these seasons of the sample the proper continuation of the sample the proper continuation of the sample to the continuation of the sample the proper continuation of the sample to the continuation of the sample the proper continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the sample the continuation of the continuation of the continuation of the continuation of the continuation of the continuation of the continuation of the continuation of the continuation of the continuation of 
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                                                                                                                                                                                                                                                                                                                                                                                                                                           single nucleotide polymorphism; endogenous opioid system; nociception; neurotransmitter release; learning; memory; cognition; pain; cocaine; amphetamine; alcohol; tobacco; opiate; withdrawal; neuroendocrine function; reproductive function; prolactin regulation; stress responsivity; mood; affect; immune function; gastrointestinal function; analgesia; additive disease;
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                                                                                                                                                                                                                                                                                                                                                             Human kappa opioid receptor, hKOR, C852T allele.
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(YUFE/) YUFEROV V.
(LAFO/) LAFORGE K S.
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stress responsivity, physiology and pathology of mood and affect, immune function, gastrointestinal function. The hKOR variant allele is useful for determining a susceptibility to pain in a subject and is useful for determining a therapeutically effective amount of pain reliever to administer to a subject in order to induce analgesia in the subject. The hKOR variant allele is useful for determining a therapeutically effective amount of therapeutic agent to administer to a subject suffering from at least one addictive disease to treat the at least one addictive disease. The gene for hKOR is located on chromosome 8q11.2. The present sequence
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          GCAGICTTCGTTGTTGCTGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGTCTGGGG
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                                                                                                                                                                                                                                                                                                            Human kappa opioid receptor, hKOR, A843G allele.
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(LAFO/) LAFORGE K S.
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The invention relates to an isolated variant allele of a human kappa opioid receptor gene, comprising a DNA sequence having at least one variation in a fully defined wild-type allele of human kappa opioid receptor (MCOR) sequence appearing as ADN30505, where the variation of replace (CC comprises CB57T, C348T, C1008T or their combinations. Also included are comprises CB57T, C348T, c1008T or their combinations. Also included are a looking vector comprising the variant and an origin of replication, an expression vector comprising the variant associated with a promoter, a conficular host transformed/transfected with the vector and a commercial est fit for determining the presence of at least one variation in a hKOR contract allele is useful for determining a susceptibility in a subject to at least one physiological response, condition or disease release condogenous opioid system, neciception, neurocransmitter release endogenous opioid system, nearming, memory, cognition, pain, cocaine, amphetamine and other stimulants self-administration, behavioural cocaine, opiates, alcohol and tobacco, opiate, amphetamine and alcohol withdrawal, physical dependence and tolerance; careas responsivity, physiclogy and pathology of mood and affect, immune for determining a susceptibility to pain in a subject and is useful for determining a therapeutically effective amount of pain reliever to determining a therapeutically effective amount of pain reliever to amount of therapeutically effective amount of pain the subject. The kKOR variant allele is useful for determining a therapeutically effective amount of pain the subject in order to induce analgesia in the subject in order to induce analgesia in the subject in amount of therapeutic agent to administer to a subject to administer to a subject to administer to a subject in order to induce analgesia on the present sequence is the sale or kKOR. The gene for kKOR is located on chromosome 8411.2. The present sequence is theadence is the page for kKOR.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 1154 BP; 238 A; 339 C; 288 G; 289 T; 0 U; 0 Other;
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13-JUL-2001; 2001US-00904584

14-JUL-2000; 2000US-0218300P

KREEK M J. YUFEROV V. LAFORGE K S.

(KREE/) (YUFE/) (LAFO/))

Laforge KS

Kreek MJ, Yuferov V,

WPI; 2004-389204/36.

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                                                                                                                                                                                                                                                                                                                                                                                                        TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGCGCCAGAGCACTAGCAGAGTC
/standard_name= "Single nucleotide polymorphism"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human kappa opioid receptor, hKOR, C1008T allele.
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replace(1008,C)
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The inversion relates to an isolated variant allele of a number Kappa optical deceptor gene, comprising ab ADN30505, where the variation of a fully defined wild-type allele of human kappa opicid variation in a fully defined wild-type allele of human kappa opicid ceeptor (hKOR) sequence appearing as ADN30505, where the variation of ceptor of the comprising the variant and an origin of replication, an expression vector comprising the variant and an origin of replication, and expression vector comprising the variant associated with a promoter, a unicellular host transformed/transfected with the vector and a commercial entert in determining the presence of at least one variation in a hKOR gene of an allele in a bodily sample taken from a subject. The hKOR variant allele is useful for determining a susceptibility in a subject to at least one physiological response, condition or disease related to the endogenous opicid system, neciception, neurotransmitter release condogenous opicid system, learning memory, cognition, behavioural sensitisation to cocaine, opiates, alcohol and tobacco, opiate, amphetamine and alcohol withdrawal, physical dependence and tolerance; curvencedocrine function, reproductive function, prolactin regulation, etcress responsivity, physiology and pathology of mood and affect, immune function, gastrointestinal function. The hKOR variant allele is useful for determining a therapeutically effective amount of pain reliever the administer to a subject in order to induce analgesia in the subject. The amount of therapoutic and is useful for determining a therapeutically effective anning annine of thera annine effect.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
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                                                                                                                                                                                                                                                                                                             Novel isolated variant allele of human kappa opioid receptor gene, u for determining susceptibility in subject to physiological response, condition or disease related to endogenous opioid system.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      invention relates to an isolated variant allele of a human kappa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1154;
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llarity 99.8%; Pred. No. 1.7e-272;
Conservative 0; Mismatches 2; II
                                                                                                                                                                                                                                                                                                                                                                                                                      Example; SEQ ID NO 4; 29pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 is the C1008T allele of hKOR.
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Best Local Similarity
Matches 1152; Conserv
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The invention relates to an isolated variant allele of a human kappa opioid receptor gene, comprising a DNA sequence having at least one variation in a fully defined wild-type allele of human kappa opioid receptor (hkOR) sequence appearing as ADN30505, where the variation comprises C852T, C948T, C1008T or their combinations. Also included are a isolated mucleic acid molecule selectively hybridising to the variant, and comprises C852T, C948T, C1008T or their combinations. Also included are comprised comprising the variant and an origin of replication, an expression vector comprising the variant associated with a promoter, a cloning vector comprising the variant associated with a promoter, a conicallular host transformed/transfected with the vector and a commercial cc expression vector comprising the presence of at least one variation in a hKOR can allele in a bodily sample taken from a subject. The hKOR variant allele is useful for determining a susceptibility in a subject to at least one physiological response, condition or disease related to the endogenous opioid system, nectoring, memory, cognition, pain, cocaine, camphetamine and other stimulants self-administration, behavioural centifisation to cocaine, opiates, alcohol and tobacco, opiate, amphetamine and alcohol withdrawal, physical dependence and tolerance; cranscreductive function, prolactin regulation, etc. stress responsivity, physiology and pathology of mood and affect, immune function, gastrointestinal function. The hKOR variant allele is useful for determining a therapeutically effective amount of pain reliever to administer to a subject in order to induce analgesia in the subject. The money manner to a subject in order to induce analgesia in the subject. The manner of the analyse of moder and administer to a subject in order to induce analgesia in the subject. The manner of the analyse of moder and administer to a subject in order to induce analgesia in the subject in a subject in a subject in a subject in subject in a subject in a subject in subj
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Human; kappa opioid receptor; hKOR; ss; gene; SNP; single nucleotide polymorphism; endogenous opioid system; nociception; single nucleotide polymorphism; endogenous opioid system; nociception; neurotransmitter release; learning; memory; cognition; pain; cocaine; amphetamine; alcohol; tobacco; opiate; withdrawal; neuroemdocrine function; productive function; productine function; stress responsivity; mood; affect; immune function; gastrointestinal function; analgesia; additive disease;
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Pred. No. 1.7e-272;
0; Mismatches 2; Indels 0; G
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/standard name= "Single nucleotide polymorphism"
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                                                                                                                                                                                                                                                                                     Location/Qualifiers
replace(846,C)
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ilarity 99.8%;
Conservative
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(YUFE/) YUFEROV V.
(LAFO/) LAFORGE K S.
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Best Local Similarity
Matches 1152; Conserv
                                                                                                                                                                                    chromosome 8q11.2.
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allele
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Human kappa opioid receptor, hKOR, C856T allele.

(first entry)

12-AUG-2004

XXXXXXXX

ADN30511

ADN30511 standard; cDNA; 1154 BP

ADN30511 RESULT

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The invention relates to an isolated variant allele of a human kappa

opioid receptor gene, comprising a DNA sequence having at least one

variation in a fully defined wild-type allele of human kappa opioid

receptor (MKOR) sequence appearing as ADNJ0505, where the variation

comprises C852T, C948T, C1008T or their combinations. Also included are

an isolated nucleic acid molecule selectively hybridising to the variant,

a cloning vector comprising the variant and an origin of replication, an

expression vector comprising the variant associated with a promoter, a

unicellular host transformed/transfected with the vector and a commercial

cet kit for determining the presence of at least one variation in a hKOR

cet kit for determining the presence of at least one variation in a hKOR

cet kit for determining a susceptibility in a subject to

at least one physiological response, condition or disease related to the

condogenous opioid system, nociception, memory, cognition, pain, cocaine,

condogenous opioid system, learning, memory, cognition, pain, cocaine,

amphetamine and other stimulants self-administration, behavioural
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                                                                                                                                                                                                                                                                                                                                      Human kappa opioid receptor, hKOR, G36T allele.
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replace(36,G)
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                                                                            TGACTAGTCGTGGA 1154
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(YUFE/) YUFEROV V.
(LAFO/) LAFORGE K S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    chromosome 8q11.2.
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sensitisation to cocaine, opiates, alcohol and tobacco, opiate, amphetamine and alcohol withdrawal, physical dependence and tolerance; neuroendocrine function, reproductive function, prolactin regulation, stress responsivity, physiology and pathology of mood and affect, immune function, gastrointestinal function. The hKOR variant allele is useful for determining a therapeutically effective amount of pain reliever to administer to a subject in order to induce analgesia in the subject. The hKOR variant allele is useful for determining a therapeutically effective amount of therapeutic agent to administer to a subject suffering from at least one addictive disease to treat the at least one addictive disease to treat the at least one additive disease. The gene for hKOR is located on chromosome 8q11.2. The present sequence is the G36T allele of hKOR.
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Pred. No. 1.7e-272;
0; Mismatches 2; Indels 0; C
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Best Local Similarity 99.8%;
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1 New isolated antigenic peptides e.g., for G protein-coupled receptors (GPCR), useful for diagnosing and designing drugs for treating conditions in which GPCRs are involved, e.g. AIDS, Alzheimer's disease, cancer or 1140 G protein-coupled receptor; GFCR; antigenic peptide; gene therapy; G protein-coupled receptor modulator; antibody; immune-related disease; growth-related disease; cell regeneration-related disease; AIDS; cancer; mimunological-related cell proliferative disease; autoimmune disease; Alzheimer's disease; atherosclerosis; infection; osteoarthritis; allergy; osteoporosis; cardiomyopathy; inflammation; Crohn; disease; diabetes; praft versus host disease; Parkinson's disease; multiple sclerosis; psoriasis; anxiety; depression; schizophrenia; dementia; memory loss; mental retardation; epilepsy; asthma; tuberculosis; obesity; nausea; "Morrican", and "Mortension; hypotension; renal disorder; rheumatoid arthritis; trauma; "Morrican". 1080 840 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGAGCAGAGCAGAGCACTAGCAGAGTC AGCACCTCCCACACACACAGCTGCTCTCCCAGCTATTACTTCTGCATTGCCTTAGGCTAT AGCACCTCCCACAGCACACACCTCTCTCCAGCTATTACTTCTCTCCATCGCCTTAGGCTAT ACCAACAGTAGCCTGAATCCCATTCTCTTGATTGAAAAACTTCAAGCGGTGT | GCAGTCTTCGTCGTCGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG nucleotide SEQ ID NO:147. (LIFE-) LIFESPAN BIOSCIENCES INC. BP. Human opioid receptor kappa 1 19-DEC-2001; 2001WO-US050107 19-DEC-2000; 2000US-0257144P ABZ42678 standard; DNA; 1182 TGACTAGTCGTGGA 1154 rgacragregrega 1154 (first entry) Roush CL, WPI; 2003-046718/04. P-PSDB; ABP81832. autoimmune diseases. ulcer; gene; ds WO200261087-A2. 04-MAR-2003 08-AUG-2002 Burmer GC, 1141 ABZ42678; 1081 1081 1141 961 1021 1021 841 841 901 901 961 781

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        The present invention describes antigenic peptides (I) comprising: (a) any one of 1601 sequences (see ABP82019 to ABP83619) of 12-24 amino coids. Also described: (1) an assay for the detection of a particular G protein-coupled receptor (GPCR) or a candidate polyopeptide in a sample; and (2) an isolated antibody having high specificity and high affinity or avidity for a particular GPCR. (1) can be used as GPCR modulators and in gene therapy. The antigenic peptides for GPCRs are useful in detecting an antibody against a particular GPCR. (1) can be used to specific antibody against a particular GPCR, and in the production of specific cartibodies. The peptides are also useful for detecting the presence or absence of corresponding GPCRs. The antigenic peptides for CPCRs and antibodies are useful for diagnosing and designing drugs for treating immune-related diseases, growth-related diseases, call regeneration-related diseases, growth-related disease, call regeneration related disease, immunological-related call proliferative diseases, or autoimmune diseases, e.g. AIDS, Alzheimer's disease, catherosclerosis, bacterosis, cancer, cardiomyopathy, chronic and acute inflammation, allergies, Crohn's disease, diabetes, graft versus host disease, parkinson's disease, multiple sclerosis, path, psoriasis, cancer, cardiomyopathy, chronic and scute cost sease. Parkinson's disease, multiple sclerosis, path, psoriasis, cancer, cardiomyopathy, chronic and schease, pathma, tuberculosis, obesity, nausea, hypertension, cost disease, theumatoid arthritis, trauma, ulcers, or hypotension, renal disorder, theumatoid arthritis, trauma, ulcers, or any other disorder in which GPCRs are involved. The antibodies may be company given in ABB81675 to ABB2033 to ABZ42869 encode CCC GPCR procession, service in which GPCR are involved, the researt involved in the recent in the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of the content of
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present relates to a method for identifying a compound for treating urological disorders e.g., urinary incontinence including overactive/versensitive bladder, overflow urinary incontinence, stress urinary incontinence caused by dysfunction of the bladder, urethra or central or peripheral nervous system, prostatitis, benign prostatic hyperplasia, ancer of the prostate or kidney disorders. The method is also useful for modulating hyperplasia in a cell and treating a subject having a urological disorder. The invention is also used in gene therapy. The present sequence is human kappa opioid receptor 1 (KOR) DNA
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                                                                                                                                                                                                                                                                                                                                       Identifying a compound for treating urological disorders, for example urinary incontinence by assaying the ability of the compound to modulate the nucleic acid expression or polypeptide activity.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1182 BP; 245 A; 345 C; 293 G; 299 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 149-151; Opp; English
28-FEB-2002; 2002US-0360500P.
15-MAR-2002; 2002US-0365041P.
19-APR-2002; 2002US-0374063P.
14-AUG-2002; 2002US-0403468P.
27-SEP-2002; 2002US-0419262P.
21-OCT-2202; 2002US-0419986P.
05-NOV-2002; 2002US-0423809P.
26-NOV-2002; 2002US-0423809P.
                                                                                                                                                                                                                                        Karicheti V;
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                                                                                                                                                                                                (MILL-) MILLENNIUM PHARM INC
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Best Local Similarity 99.5
Matches 1148; Conservative
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P-PSDB; AAE38589.
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signalling pathway population, cancer, adenocarcinoma, leukaemia,
immunopathy, AIDS, asthma, neuropathy, Alzheimer's disease, microarray.
                                                                                                                                                      GCCTCCCGAGAGAAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTG
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GGCTCCCGAGAGAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTGGTG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Combination of polynucleotide microarray for monitoring the polynucleotides.
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                                                                                                                                                                                            The invention relates to a method of determining whether a patient will respond to treatment with a farnesyl transferase inhibitor (FTI), by analyzing the expression of gene that is differentially modulated in the presence of an FTI. The method is useful for determining whether a patient will respond to treatment with a FTI such as (B) 6-[amino(4-chlorophenyl) (1-methyl-1H-imidazol-5-yl)methyl]-4-(3-chlorophenyl)-1-methyl-2-(is)quinolinone, monitoring the therapy of a patient, treating a patient with leukemia with FTI if the analysis indicates that the patient will respond. This sequence corresponds to a gene whose expression may be modulated in the presence of FTI.
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                                                                                       Determining whether a patient will respond to treatment with a farnesyl transferase inhibitor, by analyzing the expression of gene that is differentially modulated in the presence of the inhibitor.
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Pred. No. 6.2e-271;
0; Mismatches 6;
                                                                                                                                                                Disclosure; SEQ ID NO 80; 346pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                           99.2%;
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                                                       WPI; 2003-513497/48.
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array element in a microarray for monitoring the expression of a number of target polynucleocides. The microarray is particularly useful in the diagnosis and treatment of cancer and immunopathology and neuropathology. The microarray is particularly useful in the diagnosis and treatment of cancer and immunopathology and neuropathology. The microarray is useful in diagnostics and treatment regimens, drug discovery and development, toxicological and carcinogenicity studies, forcensics and pharmacogenomics. The microarray is also useful for monitoring progression of diseases and for developing sophisticated profiles for the effects of currently available therapeutic drugs. The combination is also useful for purifying a subpopulation of mRNAs, condination is also useful for purifying a subpopulation of mRNAs. Condination is also useful for purifying a subpopulation of mRNAs.

To different signaling pathway populations which can be used to diagnose various diseases including cancer e.g. adenocarcinoma and leukaemia, immunopathies e.g. Alzheimer's disease including cancer e.g. adenocarcinoma and leukaemia, immunopathies e.g. Alzheimer's disease compart of the printed specification but was obtained in electronic format directly from USPTO at
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polynucleotide probes comprising a sequence selected from one
                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1182 BP; 245 A; 345 C; 293 G; 299 T; 0 U; 0 Other;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 1144.4; DB 1
Pred. No. 6.2e-271;
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Best Local Similarity 99.5
Matches 1148; Conservative
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674 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC
                                                                                                                       GCAGTCTTCGTCGTCTGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG
                                                                                                                                                                                854 GCGGTTTTCGTCGTCGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG
                                                                                                                                                                                                                         AGCACCTCCCACAGACACAGCTGCTCTCCAGCTATTACTTCTGCATTGCCTTAGGCTAT
                                                              GGCTCCCGAGAGAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTGGTG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; probe; ss; receptor-like polypeptide; transducing polypeptide; effector-like polypeptide; cancer; immunopathology; neuropathology; drug development; toxicology; carcinogenicity; signalling pathway polypeptide; adrenal gland; bladder; bone; signalling pathway polypeptide; adrenal gland; bladder; bone;
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61 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC 720

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1034 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGGAGGGCGCAGAGCACTAGCAGAGTC
  554 TGCATCTGGCTGCTGTCGTCATCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA
                                                           GTCAGGGAAGACGTCGATGACTCATTGACTCCTTGCAGTTCCCAGATGATGATGACTACTCC
                                                                                                                                            674 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCTGTCTCCTC
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                                                                                                                       TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC
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                                          GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Selective target cell activation; G protein-coupled receptor; RASSL; gene therapy; cell proliferation; kappa opioid receptor; human; transgenic animal; arrhythmia; bone disease; seizure; transgenic ontraction; disease model; ss.
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                                                                  The invention relates to a composition of polynuclectide probes comprising first polynuclectide probes comprising at least a portion of a gene encoding a receptor-like polypeptide, second polynuclectide probes comprising at least a portion of a gene encoding a transducing comprising at least a portion of a gene encoding an effector-like polypeptide. The probes of the composition are useful as array elements in a microarray for monitoring the expression of target polynuclectides. The microarray for monitoring the expression of target polynuclectides. The microarray is useful in the control of cancer, an immunopathology or a neuropathology. It can also be used for drug discovery and development, toxicological and carcinogenicity studies, forensics or pharmacogenomics. Microarrays can also be used for monitoring the progression of diseases of that may be associated with the altered expression of signalling pathway polymeptides. The composition can also be used to purify a subpopulation of mRNAs, cDNAs, or genomic fragments in a sample. The expression profile is also useful for the disgnosis and treatment of cancer, e.g. cancers of the adrenal gland, bladder, bone, bone marrow, brain, breast or cervix, an immunopathology, e.g. AIDS, diabetes, pancreatitis, osteoporosis or ulcerative colitis, or a neuropathology, e.g. dementia, amnesia, china polymuclectide probe of the invention. Note: The sequence data for this patent did not form part of the printed specification but was
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 1182 BP; 245 A; 345 C; 293 G; 299 T; 0 U; 0 Other;
                                    Claim 6; SEQ ID NO 1417; 73pp; English
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Human kappa opioid receptor cDNA
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                                                                                                           This cDNA sequence comprises the coding region for human kappa opioid receptor (KOR, see AAW30297), a G protein-coupled receptor implicated in neurotransmisation. A novel method for selectively activating a target cell (TC) comprises: (i) introducing into the cell a nucleic acid sequence (I) that expresses a G protein-coupled receptor (A) modified to sequence (I) that expresses a G protein-coupled receptor (A) modified to the transfected cell to small synthetic ligand (RASSL); and (ii) exposing the transfected cell to small synthetic molecules (B) that bind to and activate (A), inducing the G protein-coupled cellular response associated with receptor activated by binding (B) sulficiently to produce the required cellular response. Also new are: (1) transgenic cells including cellular response. Also new are: (1) transgenic cells including cellular response. Also new are: (1) transgenic cells including cellular product. (I) is isolated (II); and (4) transgenic coll including a nimals expressing (A). Activation of (A) results, in vitro or in vivo, in cellular proliferation, or secretion of a cellular product. (I) transgenic animals, including y procedures. Other responses that can be regulated are cell cellular proliferation and contraction, or pigment production. In transgenic animals, expression or stimulation of (A) is designed to develop cardiac migration and contraction, or pigment production. In transgenic animals, certherapy procedures. Other responses that can be regulated are cell migration and contraction, or pigment production. In transgenic animals, certherapy procedures of bone disease, vascular contractions, certransgenic animals are also used for production of emembered feat/lean ratios) or to control fertility or induced labour. A RASSL derived from KOR, designated RASSL OR1 (see AAW10299), was
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                          Selective activation of target cell expressing modified G protein coupled receptor - allows control of cellular proliferation, especially for amplification of transfected cells in gene therapy.
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Pred. No. 3.4e-270;
0; Mismatches 1;
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Best Local Similarity 99.9%;
Matches 1142; Conservative
P-PSDB; AAW30297.
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/product= "kappa_opioid_receptor"
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541 TGCATCTGGCTGCTGTCGTCATCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA
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                                                                                                                                                             New nucleic acid encoding the human Kappa opioid receptor - useful in diagnosis and therapy, and for isolating receptor ligands and modulators.
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Pred. No. 5.9e-270;
0; Mismatches 1;
                                                                                   PASTEUR STRASBOURG LOUIS.
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                                           95WO-FR000912
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99.9%;
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Best Local Similarity 99.9
Matches 1141; Conservative
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                                                                                                                             WPI; 1996-097628/10.
P-PSDB; AAR88722.
                                                              11-JUL-1994;
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 WO9601898-A1
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Sequence 16, Appli Sequence 16, Appli Sequence 10, Appli Sequence 546, Appli Sequence 546, Appli Sequence 1, Appli Sequence 1, Appli Sequence 15, Appli Sequence 15, Appli Sequence 15, Appli

Sequence

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Scoring table:

Searched:

Minimum DB 8 Maximum DB 8

Database

Perfect score:

Sequence:

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Run on:

Sequence 15, A Sequence 15, Sequence 17, A Sequence 7, A Sequence 7, A Sequence 7, A Sequence 3, A S

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Sequence 1417, Application US/09016434

| Sequence 1417, Application US/09016434
| Patent No. 650038
| GENERAL INFORMATION:
| APPLICANT: Janice Au-Young
| APPLICANT: Jeffrey J. Seilhamer
| TITLE OF INVENTION: COMPOSITION FOR THE DETECTION OF SIGNALING
| TITLE OF INVENTION: PATHWAY GENE EXPRESSION
| NUMBER OF SEQUENCES: 1490
| CORRESPONDENCE ADDRESS:
| ADDRESSEE: INCYTE PHARMACEUTICALS, INC.
| STREET: 3174 PORTER DRIVE
| CITY: PALO ALIO
| STATE: CALIFORNIA
| COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 94304

COMPUTER READABLE FORM:
MEDLUM TYPE: Floppy disk
COMPUTER: IBM PC COMPALIDIE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WOR'D PErfect 6.1 for Windows/MS-DOS 6.2
CURRENT APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: US/09/016,434
FILING DATE: HEREWITH
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99.2%; Score 1144.4; DB 4; 99.5%; Pred. No. 7.4e-284;
                                               US-09-761-962A-10
US-09-826-509-546
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US-08-418-59-1
US-08-418-59-1
                       US-09-761-962A-16
US-09-761-962A-9
US-09-761-962A-11
                                                                                                                                                                                    US-09-214-904-3
US-08-432-174A-1
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APPLICATION NUMBER:
FILING DATE:
CLASSIFICATION:
FILING DATE:
CLASSIFICATION:
NAME: Zeller, Karen J.
REGISTRATION NUMBER: 9A-0002 US
FELECOMUNICATION INFORMATION:
FELECOMUNICATION INFORMATION:
FELECOMUNICATION INFORMATION:
FELECOMUNICATION INFORMATION:
FELECOMUNICATION SEQ 1D NO: 1417:
SEQUENCE CHARACTERISTICS:
LENGTH: 1182 base pairs
TYPE: nuclet acid
TYPE: nuclet acid
STRANDEDNESS: SINGLE
                         1610
1729
2045
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1981
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; CLONE: g532059
US-09-016-434-1417
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            GenCore version 5.1.6
(c) 1993 - 2005 Compugen Ltd
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US-08-124-904-5

US-08-124-502A-1

US-08-122-694A-11

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US-08-889-108-1

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Maximum Match 100%
Listing first 45 summaries
                                                              nucleic search, using sw model
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Gapop 10.0 , Gapext 1.0
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1144.4

Length 1182;

| Oy 1081 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGAATAAACCAGTA | GENERAL INFORMATION: APPLICANT CONLIN, Bruce R. TITLE OF INVENTION: Selective Target Cell Activation By TITLE OF INVENTION: Expression of A G Protein-Coupled Receptor Activated TITLE OF INVENTION: Superiorly By Synthetic Ligand TITLE OF INVENTION: Superiorly By Synthetic Ligand FILE REFERENCE: UCAL-0491P CURRENT APPLICATION NUMBER: US/09/341,446B CURRENT FILING DATE: 1999-12-20 FRIOR FILING DATE: 1997-03-25 FRIOR FILING DATE: 1997-03-25 FRIOR PRICKETION NUMBER: US 08/622,348 FRIOR FILING DATE: 1996-03-26 NUMBER OF SEQ ID NOS: 12 SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 1 LENGTH: 1143 TYPE: DNA MCANISM: Homo sapiens | Query Match 98.9%; Best Local Similarity 99.9%; Matches 1142; Conservative | Qy | QY- 61 TGCCTGCCCCCAACAGCAGCGCTTGCTTTCCCGGCTGGGCCGAGCCGACCAGCAACGGC | Db 121 AGCGCCGGCTCGGAGGACGCCGCGCCCCGCGCACATCTCCCCGGCCATCCCCGGTC | Qy 181 ATCATCACGGGTCTACTCCGTAGTGTTCGTCGGGGCTTGGTGGGCAACTCGCTGGTCGTGGTCGTGGTGGTGTGTGGTGGTGTGTGGTG | Qy 241 ATGTTCGTCATCCGATACACAAAGATGAAGACAGCAACCAAC | OY 301 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG | OY 361 ATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTCCATTGATTACTAC | OY 421 AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTG | Qy 481 TGCCACCCGTGAAGGCTTTGGACTTCCGCACACCTTGAAGGCAAAGATCATCATATC |
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| Matches 1148; Conservative 0; Mismatches 6; Indels 0; Gaps 0; Qy 1 ATGAGTCCCCGATCTCCGGGGGGGCGGGCCTACCTGCGCCCGAGGCC 6 1 | 181 ATCATCACGGGGGTCTACTCGTAGTGGTCGGGCTTGGTGGGCAACTCGCTGGTC 240 194 ATCATCACGGGGGTCTACTCGTGGTGGCTTGGTGGGCAACTCGCTGGTC 253 194 ATCATCACGGGGGTCTACTCGTGGTGGCTTGGTGGGCAACTCGCTGGTC 253 194 ATCATCACGGGGGTCTACTCGTGGGGCTTGGTGGGCAACTCGCTGGTC 253 195 ATGATCGTGATCATCACACAAAGATCAAGACAACAATTACATATTACA 310 196 ATGATCGTGATCATACAAAGATCAAACAACAATTACATATTTAC 310 196 ATGATTCTGGCAGATGCTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG 360 196 ATGAATTCTGGCAGATGCTTACAACCATGCCTTTCAGAGTACGGTCTACTTG 373 197 ATGAATTCTGGCAGATGCTTACTACAACAATAGTAATTTCCATTGATTACTAC 420 197 ATGAATTCTGGCGATGTGCTGGCAGATAGTAATTTCCATTGATTACTAC 430 198 ATGAATTCTGGCGATGTGCTGGCAGATAGTAATTTCCATTGATTACTAC 430 198 ATGAATTCTGGCCATTTTGGGGATGTGCTGGCAGATAGTAATTCCATTGATTACTAC 430 196 ATGAATTCTGGCCATTTTGGCGATGATGATAGTAATTCCATTGATTACTAC 430 196 ATGAATTCTGGCCATTCACCATGATGATAGTAATTTCCATTGATTACTAC 430 196 ATGAATTCTGGCCATTCACCATGATGATGATAGTAATTACTAC 430 196 ATGAATTCTGGCCATTCACCATGATGATGATAATTCCATTGATTACTAC 430 196 ATGAATTCTGGCCATTCACCATGATGATGATAATTACATTGATTACTAC 430 197 ATGAATTCTGGCCATTCACCATGATGATGATAATTACATTGATTACTAC 430 197 ATGAATTCTGGCCATTCACATGATGATGATAATTACATTGATTACTACTACTACTACTACTACTACTACTACTACTACTA | 491 IGCCACCCGTGAAGGCTTTGGACTTCCGCACCCCTTGAAGGCAAAGATCATCATTATTCGTGAAGCTTTGGACTTCCGCACCCCTTGAAGGCAAAGATCATCATTTGAACCACCCCTTGAAGGCAAAGATCATCATATC | Qy 541 IGCATCIGGCIGCIGICATCIGITGGCATCICIGCAATAGTCCTIGGAGGCACCAAA 600 | OY 601 GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC 660 | Oy 661 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC 720 | OY 721 AICAICAICGICIGCIACACCCIGAIGAICCIGCGICCAAGAGCGICCGGCICCITICI 780 | OY 781 GGCTCCCCGAGAGAAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTGGTGGTGGTG 840 Db 794 GGCTCCCGAGAGAAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTGGTG 853 | OY 841 GCAGICTICGICGICGICGICCCATICACATATICATICATCTGGAGGCICIGGGG 900 | OY 901 AGCACCTCCCACAGCACAGCTGCTCTCCCAGCTATTACTTCTGCATTGCCTTAGGCTAT 960 | QY 961 ACCAACAGTAGCCTGAATCCCATTCTTCTAGGCGTGT 1020 DD 974 ACCAACAGTAGCCTGAATCCCATTCTTAGGCCTTTCTTGATGAAACTTCAAGGGGTGT 1033 | Qy 1021 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGAGGGCGGCAGAGCACTAGCAGGTC 1080 |

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US-09-31-446B-5; Sequence 5, Application US/09341446B
; Sequence 5, Application US/09341446B
; Patent No. 6518480
; GENERAL INFORMATION:
; APPLICANT: CONKLIN, Bruce R.
; TITLE OF INVENTION: Selective Target Cell Activation By
TITLE OF INVENTION: Superiorly By Synthetic Ligand
; TITLE OF INVENTION: Superiorly By Synthetic Ligand
; TITLE OF INVENTION: Superiorly By Synthetic Ligand
; TITLE OF INVENTION: Superiorly By Synthetic Ligand
; TITLE OF INVENTION: USD-03-12-20
; FILE REFERENCE: 1999-12-20
; FRIOR APPLICATION NUMBER: PCT/US97/05334
; PRIOR FILING DATE: 1996-03-26
; PRIOR PELING DATE: 1996-03-26
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 5-
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                                                                     TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATGTTGCCTTCGTGATCCCTGTCCTC
                                                                                                                                                             ATCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGGGTCCGGCTCCTTTCT
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US-09-341-446B-5
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                                                                     Sequence 542, Application US/09826509
Sequence 542, Application US/09826509
Patent No. 6806054
GENERAL INFORMATION:
APPLICANT: Lehamn-Bruinsma, Karin
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, Chen W.
APPLICANTON: Protein-Coupled Receptors
FILE REFERENCE: ARRN-207
CURRENT PRILING DATE: 2001-04-05
PRIOR FILING DATE: 2000-04-07
PRIOR FILING DATE: 1998-10-13
NUMBER OF SEQ ID NOS: 589
SOFTWARE: PatentIn Version 2.1
SEQ ID NO 542
LENGTH: 1143
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Matches 1135; Conservative
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ORGANISM: Homo sapiens
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US-09-826-509-542
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APPLICANT: Conkin, Bruce R.

TITLE OF INVENTION: Selective Target Cell Activation By

TITLE OF INVENTION: Expression of A G Protein-Coupled Receptor Activated

TITLE OF INVENTION: Expression of A G Protein-Coupled Receptor Activated

FILE REFERENCE: UCAL-049CIP

CURRENT APPLICATION NUMBER: US/09/341,446B

CURRENT FILING DATE: 1999-12-20

PRIOR PILING DATE: 1999-12-20

PRIOR PILING DATE: 1997-03-25

PRIOR PILING DATE: 1996-03-26

NUMBER OF SEQ ID NOS: 12

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 7
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Pred. No. 2.2e-245;
0; Mismatches 74;
                                                                                                             Sequence 7, Application US/09341446B
Patent No. 6518480
GENERAL INFORMATION:
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llarity 92.7%;
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ORGANISM: Artificial Sequence
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Best Local Similarity
Matches 1058; Conserv
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LOCATION:
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TITLE OF INVENTION: TRANSGENIC ANIMAL IN WHICH TITLE OF INVENTION: OF OPIATE RECEPTORS IS MOD NUMBER OF SEQUENCES:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PatentIn Release #1.0, Version #1. CURRENT APPLICATION NUMBER: US/09/214,904
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/FR97/01282
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Patent No. 6632977
GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 1408 base pairs
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STRANDEDNESS: double
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                                                                                                    1081 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAACCAGTA 1140
                                                                                                                     TICCGGGACTICTGCTITTCCACTGAAGATGAGGATGGAGCGGCAGAGCACTAGCAGAGTC 1080
                                                                 1204 TTTAGGGACTTCTGCTTCCCTATTAAGATGCGAATGGAGCGCCAGAGCACCAATAGAGTT 1263
   1144 ACCAACAGCAGCCTGAATCCTGTTCTCTATGCCTTTCTGGATGAAAACTTCAAGGGGTGT 1203
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OFTWARTING SISIEM: PC-DOS/MS-LOS
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/147,592A
FILING DATE: 05-NOV-1993
CLASSIFICATION: 435
FILING APPLICATION DATA:
APPLICATION NUMBER: 08/100,694
FILING APPLICATION: 435
APPLICATION: 435
APPLICATION: 435
APPLICATION: 435
APPLICATION: 435
APPLICATION: 435
APPLICATION: 435
APPLICATION: 435
APPLICATION: 435
APPLICATION: 435
APPLICATION NUMBER: 08/066,296
FILING DATE: 20-MAY-1993
CLASSIFICATION: 435
APPLICATION: 435
APPLICATION NUMBER: 37,259
REGISTRATION NUMBER: 37,259
REGISTRATION NUMBER: 37,259
REFERENCE/DOCKET NUMBER: 37,259
TELEPPAK: (512) 418-3000
TELEPPAK: (512) 418-3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 79.1%; Score 912.4; DB 3; Best Local Similarity 86.9%; Pred. No. 3e-224; Matches 1003; Conservative 0; Mismatches 151;
                                                                                                                                                                                                                                                                              Sequence 1, Application US/08147592A
Patent No. 6095513
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Bell, Graeme I
APPLICANT: Reisine, Terry
APPLICANT: Yasuda, Kazuki,
TITLE OF INVENTION: Opploid Receptor Genes,
TITLE OF INVENTION: Compositions and Methods
NUMBER OF SEQUENCES: 43
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Arnold, White & Durkee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: United States of America COUNTRY : 12210
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEX: N/A
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 1410 base pairs
TYPE: nucleic acid
STRANDENNESS: single
                                                                                                                                                                      TGACTAGTCGTGGA 1154
                                                                                                                                                                                          1324 TGACTAGTCGTGGA 1337
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STATE: Texas
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MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; NAME/KEY:
; LOCATION:
US-08-147-592A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE:
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US-08-147-592A-1
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543 386 603 446 506 723 626

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999 783 903 746 963 908

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964 AACAGTAGCCTGAATCCCATTCTTCTTCTTGATGAAAACTTCAAGCGGTGTTTC 1023
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TICTITICTITIAGATACACAAAGATGAAGACAGCAACCAACATTIACATTITAACCTG 146
                                                                                                                                                                                                                                                              267 AIGTITCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTGTGC 326
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                                                                    GCTTTGGCAGATGCTTTAGTTACTACCATGCCCTTTCAGAGTACGGTCTACTTGATG
                                                                                                            147 GCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTGATG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COBERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/147,592A
FILING DATE: 05-NOV-1993
CLASSIPLATION: 435
PRIOR APPLICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 75.4%; Score 869.6; DB 3; Best Local Similarity 97.5%; Pred. No. 2.5e-213; Matches 891; Conservative 0; Mismatches 20;
                                                                                                                                                                                                                GENERAL INFORMATION:
APPLICANT: Bell, Graeme I
APPLICANT: Reisine, Terry
APPLICANT: Yasuda, Kazuki
TITLE OF INVENTION: Opioid Receptor Genes,
TITLE OF INVENTION: Compositions and Methods
NUMBER OF SEQUENCES: 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13, 896, 906
= A, C, G or
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: LOCATION: 169, 181, 265, 269

: IDENTIFICATION METHOD: Xaa = unknown

18-08-147-592A-11
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NAME: Wilson, Mark B.
REGISTRATION NUMBER: 37,259
REFERENCE/DOCKET NUMBER: ARCD:105
TELECOMMINICATION INFORMATION:
TELEPHONE: (512) 418-3000
TELEFAX: (512) 474-7577
                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: Arnold, White & Durkee
                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: Houston
STATE: Texas
COUNTRY: United States of America
ZIP: 72210
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/100,694
FILING DATE: 30-JUL-1993
CLASSIFICATION: 435
APPLICATION NUMBER: 08/066,296
FILING DATE: 20-MAY-1993
CLASSIFICATION: 435
                                                                                                                                                                        Sequence 11, Application US/08147592A
Patent No. 6096513
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INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 1000 base pairs
                                                                  1326 rickérkérégréga 1339
                          TGACTAGTCGTGGA 1154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IDENTIFICATION METHOD: N
                                                                                                                                                                                                                                                                                                                                                                                                               P.O. Box 4433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: nucleic acid_
STRANDEDNESS: single
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LOCATION: 102
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MOLECULE TYPE:
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LOCATION: 60
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US-08-147-592A-11
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Sequence 11, Application US/08292694A
Patent No. 6319686
GENERAL INFORMATION:
APPLICANT: BELL, GRAEME
APPLICANT: REISTINE, TERRY
APPLICANT: YASUDA, KAZUKI
TITLE OF INVENTION: OPIOID RECEPTORS: COMPOSITIONS AND METHODS

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1023
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                                                                                                                                                                                                                                                                                                                                                                                  447 AGGGAAGGTGTCGATGTCATTGAGTGCTGCTTGCAGTTCCCAGATGATGACTACTCCCTGG
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                                                                     327 CACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATCTGC
                                                                                                                                                                                                                                                                                                  387 ATCTGGCTGCTGTCGTCATCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAAGTC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               904 ACCICCCACAGCACAGCTGCTCTCCAGCTATTACTTCTGCATTGCCTTAGGCTATACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   747 ACCTCCCACAGCACAGCTGTCTCTCCCAGCTATTACTTCTGCATCGCCTTAGGCTATACC
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                                   424 ATGTTCACCAGCATCTTCACCTTGACCATGAGCGTGGACCGCTACATTGCCGTGTGC
                                                                                                                                          CACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATCTGC
                                                                                                                                                                                                                                                544 ATCTGGCTGCTGTCGTCATCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAAGTC
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Sequence 1, Application US/08430286A

Sequence 1, Application US/08430286A

Patent No. 6225800

GENERAL INFORMATION:
APPLICANT: Uhl, George R.
APPLICANT: Uhl, George R.
APPLICANT: Wang, Jai.Bel
TITLE OF INVENTION: Mu-Subtype Opioid Receptor
NUMBER OF SEQUENCES: 14

CORRESPONDENCE ADDRESS:
ADDRESSES: Darby & Darby PC
STREET: 805 Third Avenue
CITY: New York

STATE: New York

COUNTRY: US
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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PRICASSIPICATION 1435

PRICA APPLICATION DATA:
APPLICATION NUMBER: 08/066,296
FILING DATE: 20 May 1993
CLASSIFICATION *435
APPLICATION NUMBER: 08/100,694
FILING DATE: 30 July, 1993
CLASSIFICATION *435
APPLICATION NUMBER: 08/147,592
FILING DATE: 30 No. 6319686cmber 1993
CLASSIFICATION *435
APPLICATION NUMBER: PCT/US94/05747
FILING DATE: 20 May 1994
CLASSIFICATION *435
ATTORNEY/AGENT INFORMATION:
NAME: MARK B. WILLSON
REFERENCE/DOCKET NUMBER: ARCD:140/WIM
TELEPHONE: (713) 789-2679
TELEPHONE: (713) 789-2679
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IDENTIFICATION METHOD: N = A, C, G or T
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LOCATION: 169, 181, 265, 269
IDENTIFICATION METHOD: Xaa = unknown
NUMBER OF SEQUENCES: 46
CORRESPONDENCE ADDRESS:
ADDRESSEE: Arnold, White & Durkee
STREET: P. O. Box 4433
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MOLECULE TYPE: DNA (genomic)
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TYPE: nucleic acid
STRANDEDNESS: single
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LOCATION: 102..986
FEATURE:
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                                                                                                      CITY: Houston
STATE: Texas
COUNTRY: USA
                                                                                                           Houston
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LOCATION: 60
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Mu Opioid Receptors: Compostions and Methods
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/889,108
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O. Box 4433
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Patent No. 6103492
GENERAL INFORMATION:
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ATTORNEY/AGENT INFORMATION:
NAME: Wilson, Mark B.
REGISTRATION NUMBER: 37,259
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: (
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MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Yu, Lei
TITLE OF INVENTION: Mu
NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CDS
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; LOCATION:
US-08-889-108-1
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                      CURELIEN.
CURRENT STATEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/430,286A
FILING DATE: 28-APR-1995
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Pred. No. 2.4e-105;
0; Mismatches 319;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         0646/1A843-US5
         IBM PC compatible SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                            FILING DATE: 28-APR-1995
CLASSIFICATION: 536
ATTORNEY/AGENT INFORMATION:
NAME: RObinson, Joseph R.
REGISTRATION NUMBER: 33,448
REPERENCE/DOCKET NUMBER: 0646
TELEPHONE: 212-527-7700
TELEFAX: 212-537-6237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEX: 236687
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
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Best Local Similarity 67.1%;
Matches 670; Conservative
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IMMEDIATE SOURCE:
CLONE: mu receptor cDNA
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STRANDEDNESS: single
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MOLECULE TYPE: c
ORIGINAL SOURCE:
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/889,108
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Patentin Release #1.0,
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APPLICATION NUMBER: 08/305,518
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: Wilson, Mark B.
REGISTRATION NUMBER: 37,259
REFERENCE/DOCKET NUMBER: INDAO
TELEPANICATION INFORMATION:
TELEPANS: 512-418-3000
TELEPANS: 512-418-3000
INFORMATION FOR SEQ ID NO: 3: SEQUENCE CHARACTERISTICS:
LENGTH: 1618 base pairs
TYPE: nucleic acid
STRANDENNESS: single
                           ; Sequence 3, Application US/08889108; Patent No. 6103492
                                                                                                                                                                                                                                                                   IBM PC compatible
                                                                                                                                                                    CITY: Houston
STATE: TX
COUNTRY: USA
ZIP: 77210-4433
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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MOLECULE TYPE: DNA (cDNA)
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CLASSIFICATION:
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LOCATION:
US-08-889-108-3
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   RESULT 15
US-08-889-108-3
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   Length 1618;
Score 448; DB 3; Length 16
Pred. No. 5.4e-105;
0; Mismatches 320; Indels
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169 409 229 469 289 529 349 589 409 590 rcaactaccrearescarearescerreseaaccarecreseaagaresrea 649 530 ACATTTTCAACCTTGCTCTGGCAGACGCCTTAGCGACCAGTACACTGCCCTTTCAGAGTG 110 ACAGCAACGCAGCGCCGGCTCGGAGGACGCGCAGCTGGAGCCCGCGCGCACATCTCCCCCGG 350 ACCGCACCGGGCTTGGCGGGAACGACAGCCTGTGCCCTCAGACCGGCAGCCCTTCCATGG 470 ACTICCTGGTCATGTATGTGATGTAGATACACCAAAATGAAGACTGCCACCAACATCT 290 ACATATTTAACCTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTA 170 CCATCCCGGTCATCATCACGCCGGTCTACTCCGTAGTGTTCGTCGTGGGCTTGGTGGGCA 410 rcacaccarraccarcardecerreracionarios respectados de contra de 350 CGGTCTACTTGATGAATTCCTGGCCTTTTGGGGGATGTGCTGTGCAAGATAGTAATTTCCA ACTCGCTGGTCATGTTCGTGATCATCCGATACACAAGATGAAGACACACATTT Gaps GENERAL INFORMATION:
APPLICANT: Yu, Lei
APPLICANT: Yu, Lei
TITLE OF INVENTION: Mu Opioid Receptors: Compostions and Methods
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSE: Arnold, White & Durkee
STREET: P. O. BOX 44433 <u>ب</u> Length 1618; Indels #1.25 Query Match 38.8%; Score 448; DB 3; L Best Local Similarity 67.0%; Pred. No. 5.4e-105; Matches 669; Conservative 0; Mismatches 320; INDA005\WIM

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1001 GCATGCTATCGGGCTCCAAGAAAAGGACAGGAATCTGCGCGGGATCACCGGATGGTGC 1060
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                                                             710 ACATTGCTGTCTGCCACCCAGTCAAAGCCCTGGATTTCCGTACCCCCGAAATGCCAAAA 769
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Search completed: April 6, 2005, 12:39:41 Job time : 218 secs

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| Run on: | April 6, 2005, 12:28:42 ; Search time 766.333 Seconds (without alignments) 9125.590 Million cell updates/sec |
| Title: Perfect score: Sequence: | US-09-904-584-3 1154 1 atggactccccgatccagatccagtatgactagtcgtgga 1154 |
| Scoring table: | IDENTITY NUC Gapop 10 ⁻ 0 , Gapext 1.0 |
| Searched: | 5615251 seqs, 3030001701 residues |
| Total number of | Total number of hits satisfying chosen parameters: 11230502 |

seq length: 0 seq length: 200000000

Minimum DB Maximum DB

Published Applications NA:* Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries Database

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/ cgn2_6/ptodata/1/pubpna/US07_NEW_PUB.seq:*
/ cgn2_6/ptodata/1/pubpna/US06_NEW_PUB.seq:*
/ cgn2_6/ptodata/1/pubpna/US06_PUBCOMB.seq:*
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/ cgn2_6/ptodata/1/pubpna/US10B_PUBCOMB.seq:* /cgn2_6/ptodata/1/pubpna/US60_PUBCOMB.seq:* 14: 115: 117: 109:

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result Š.

Sequence 3, Appli Sequence 1, Appli Sequence 45, A Sequence 559, Sequence 5, Ag Sequence 4, Ag Sequence 5, Ag Sequence 6, Ag Sequence 147, Ag Sequence 147, Sequence Description US-09-904-584-3 US-09-904-584-1 US-10-278-698-559 US-10-278-698-559 US-09-904-584-4 US-09-904-584-4 US-09-904-584-6 US-09-904-584-6 US-09-904-584-6 US-09-904-584-1 US-10-225-5578-147 US-10-225-578-147 H Query Match Length DB 1602 0.001 99.09 9.09 9.09 7.09 1152.4 1152.4 1150.8 1150.8 1150.8 1150.8 Score 1144.4

| Sequence 1417, Ap Sequence 80, Appl Sequence 1, Appl Sequence 21, Appl Sequence 21, Appl Sequence 542, Appl Sequence 542, Appl Sequence 13, Appl Sequence 13, Appl Sequence 17, Appl Sequence 17, Appl Sequence 188121, Sequence 188122, Sequence 188122, Sequence 188122, Sequence 188122, Sequence 25, Appl Sequence 25, Appl Sequence 25, Appl Sequence 25, Appl Sequence 25, Appl Sequence 26, Appl Sequence 26, Appl Sequence 26, Appl Sequence 26, Appl Sequence 26, Appl Sequence 26, Appl Sequence 27, Appl Sequence 27, Appl Sequence 27, Appl Sequence 27, Appl Sequence 27, Appl Sequence 27, Appl Sequence 27, Appl Sequence 27, Appl Sequence 27, Appl Sequence 27, Appl Sequence 27, Appl Sequence 27, Appl Sequence 37, App | 81 81 11 11 |
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ALIGNMENTS

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APPLICANT: Kreek, Mary Jeanne
APPLICANT: Treek, Mary Jeanne
APPLICANT: Treek, Mary Jeanne
APPLICANT: Treek, Mary Jeanne
APPLICANT: Treerow, Vadim
APPLICANT: LaForge, Karl Steven
TITLE OF INVENTION: Allales of the Human Kappa Opioid
TITLE OF INVENTION: Receptor Gene, Diagnostic Methods Using Said Allelles, and
TITLE OF INVENTION: Methods of Treatment Based Thereon
FILE REPERROR: 600-1-285N
CURRENT APPLICATION NUMBER: US/09/904,584
CURRENT APPLICATION NUMBER: 600-17-13
PRIOR FILING DATE: 2000-07-14
NUMBER OF SEQ ID NOS: 7
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 3
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100.0%; Pred. No. 0;
iive 0; Mismatches
               Sequence 3, Application US/09904584 Publication No. US20040097704A1 GENERAL INFORMATION:
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Best Local Similarity 100.
Matches 1154; Conservative
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Sequence 1, Application US/09904584;
Publication No. US20040097704A1
GENERAL INFORMATION:
APPLICANT: Kreek, Mary Jeanne
APPLICANT: LaForge, Karl Steven
TITLE OF INVENTION: Alleles of the Human Kappa Opioid
TITLE OF INVENTION: Receptor Gene, Diagnostic Methods Using Said Allelles, and
TITLE OF INVENTION: Methods of Treatment Based Thereon
TITLE OF INVENTION: Methods of Treatment Based Thereon
FILE REFERENCE: 600-1-285N
CURRENT APPLICATION NUMBER: 60/218,300
FILE REFERENCE: 2001-07-13
PRIOR FILING DATE: 2001-07-13
PRIOR FILING DATE: 2000-07-14
NUMBER OF SEQ ID NOS: 7
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1
LENGTH: 1154
TYPE: DNA
TYPE: DNA
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Best Local Similarity 99.9
Matches 1153; Conservative
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APPLICANT: Kreek, Mary Jeanne
APPLICANT: Treek, Mary Jeanne
APPLICANT: Treek, Mary Jeanne
APPLICANT: Treek, Mary Jeanne
APPLICANT: Treerow, Vadim
APPLICANT: Treerow, Vadim
APPLICANT: LaForge, Karl Steven
TITLE OF INVENTION: Receptor Gene, Diagnostic Methods Using Said Allelles, and
TITLE OF INVENTION: Methods of Treatment Based Thereon
FILE REFERENCE: 600-1-285N
CURRENT PELLING DATE: 2001-07-13
PRIOR PILING DATE: 2001-07-13
PRIOR PILING DATE: 2000-07-14
NUMBER OF SEQ ID NOS: 7
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 22
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Best Local Similarity 99.8%;
Matches 1152; Conservative 0
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CORGANISM: homo sapiens
US-09-904-584-2
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                                                                                                                                                                                                                                                            99.9%; Score 1152.4;
99.9%; Pred. No. 0;
iive 0; Mismatches
 GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: FathoArray GmbH
APPLICANT: Stublmuller, Bruno
TITLE OF INVENTION: Nucleic Acid Array
TITLE PEPERRNCE: 03002705
CURRENT APPLICATION NUMBER: US/10/278,698
CURRENT FILING DATE: 2002-10-23
NUMBER OF SEQ ID NOS: 1050
SEQ ID NO 559
                                                                                                                                                                                                                                                                            Best Local Similarity 99.9
Matches 1153; Conservative
                                                                                                                                                                                                    TYPE: DNA
CRGANISM: Homo sapiens
US-10-278-698-559
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                 Using
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TITLE OF INVENTION: Alleles of the Human Kappa Opioid
TITLE OF INVENTION: Receptor Gene, Diagnostic Methods Usin;
TITLE OF INVENTION: Methods of Treatment Based Thereon;
FILE REFERENCE: 600-1-285N
CURRENT APPLICATION NUMBER: US/09/904,584
CURRENT APPLICATION NUMBER: 60/218,300
PRIOR FILING DATE: 2001-07-13
PRIOR FILING DATE: 2000-07-14
NUMBER OF SEQ ID NOS: 7
SOFTWARE: FasteEQ for Windows Version 4.0
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Pred. No. 0;
0; Mismatches
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Best Local Similarity 99.8%;
Matches 1152; Conservative
                                                                                                                                                                   TYPE: DNA ORGANISM: homo sapiens
                                                                                                                                                      LENGTH: 1154
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US-09-904-584-4
; Sequence 4, Application US/09904584
; Publication No. US20040097704A1
; GENERAL INFORMATION:
    APPLICANT: Kreek, Mary Jeanne
; APPLICANT: Yuferov, Vadim
; APPLICANT: LaForge, Karl Steven
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| Db 241 ATGTTCGTGATCCTCGATACACAAAGATGAAGACAACCAAC | Oy 301 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG 360 | Qy 361 ANGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAGAAGATAGTTCCATTGATTACTAC 420 bb 361 ATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTCCATTGATTACTAC 420 | Qy 421 AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTG 480 LI | QY 481 TGCCACCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAGATCATCATCATATC 540 DD 481 TGCCACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCATATC 540 | Qy 541 IGCATCTGGCTGTCGTCATCTGTTGCCATCTCTGCAATAGTCCTTGGGGCACCAAA 600 | Qy 601 GTCAGGAAGACGTCGATGACTGCTCGTTGCAGTTCCCAGATGACTACTCC 660 [| Qy 661 IGGIGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCTC 720 | Qy 721 ATCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCT 780 | OY 781 GGCTCCCGAGAGAACGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTGGTG 840 | Oy 841 GCAGTCTTCGTCGTCGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGTCTGGGG 900 | 0y 901 AGCACCTCCCACAGCAGCTGCTCTCTCCAGCTATTACTTCTGCATTGCCTTAGGCTAT 960 | OY 961 ACCAACAGTAGCCGAATCTCTACGCCTTTCTTGATGAAACTTCAAGCGGTGT 1020 | Qy 1021 TICCGGGACTICTGCTITCCACTGAAGAIGAGGAIGGAGGGCGGCAGACCACTAGCAGTC 1080 | OY 1081 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGACATGGATGG | Qy 1141 TGACTAGTCCTGGA 1154 | RESULT 8 US-09-904-584-6 ; Sequence 6, Application US/09904584 | GENERAL INFORMATION: ; APPLICANT: Kreek, Mary Jeanne ; APPLICANT: Yrferov, Vadim , APPLICANT: Yrferov, Vadim | ; AFFLICANI: LAFOLYE, AGII SCEVEN ; TITLE OF INVENTION: Alleles of the Human Kappa Opioid |
|--|---|--|--|--|--|---|--|---|---|---|---|--|---|---|---|---|--|--|
| | OY 841 GCAGICITCGTCGTCTGCACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG 900 | QY 901 AGCACCTCCCACAGCACAGCTGCTCTCCAGCTATTACTTCTGCALTGCCTTAGGCTAT 960 | OY 961 ACCAACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAACTTCAAGGGTGT 1020 | QY 1021 TTCCGGGACTTCTCCACTGAAGATGAGGATGGGGCAGAGCACTAGCAGAGTC 1080 | Qy 1081 CGAAATACAGTTCCAGGATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAACCAGTA 1140 | Qy 1141 TGACTAGTCGTGGA 1154 | RESULT 7 US_09-904-584-5 | ; sequence on No. US20040097704Al ; Publication No. US20040097704Al ; GENERAL INFORMATION: ; APPLICANT: Kreek, Mary Jeanne | ; APPLICANT: Turerov, Vadim ; APPLICANT: LaForge, Karl Steven ; TITLE OF INVENTION: Alleles of the Human Kappa Opioid ; TITLE OF INVENTION: Receptor Gene, Diagnostic Methods Using Said Allelles, and | FILE OF INVALIDENCY: MELIODS OI IFEAUMENT DASEG INFEEDIN FILE REFERENCE: 600-1-285N CURRENT APPLICATION NUMBER: US/09/904,584 | FRIOR FILING DATE: 2000-07-14 NUMBER OF SEQ ID NOS: 7 SOFTWARE: FastSEQ for Windows Version 4.0 | ; SEC 11 N 3 ; LENGTH: 1154 ; TYPE: DNA PROME : ORGANIZM: homo sapiens ; ORGANIZM: homo sapiens | , 28 2 | CCGATCCAGATCTTCCGCGGGGGGCCCTACCTGCGCCCCGAGCGCC 60 | 61 TGCCTGCCCCCAACAGCGCCTGGTTCCCGGCTGGGCCGACGCCGACAGCGACGGCCAACAGCAACCCCAACAGCAACCCCAACAGCAACCCCCAACAGCAACCCCGACAGCGCCTGGTTTCCCGGCTGGGCCGAGCCCCAACAGCAACAGCAACCCCCCAACAGCAACCCAACAGCAACCCAACAGCAACAGCAACAGCAACAGCAACAGCAACAGCAACAGCAACAGCAACAGCAACAGCAACAGCAACAA | OY 121 AGCGCCGGCTCCGAAGAACGCGCAGCTGGAACTCCCCCGCCCATCCCCGGTC 180 | OY 181 ATCATCACGGCGGTCTACTCCGTAGTGTTCGTCGTGGGCTTGGTGGGCAACTCGCTGGTC 240 | OY 241 ATGTTCGTGATCATCCGATACACAAGATGAAGACAGCAACCAAC |

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APPLICANT: Yuferov, Vadim
APPLICANT: LaForge, Karl Steven
TITLE OF INVENTION: Alleles of the Human Kappa Opioid
TITLE OF INVENTION: Alleles of the Human Kappa Opioid
TITLE OF INVENTION: Receptor Gene, Diagnostic Methods Using Said;
TITLE OF INVENTION: Methods of Treatment Based Thereon
TITLE OF INVENTION: Methods of Treatment Based Thereon
TITLE OF INVENTION: MACHOR OF TREATMENT APPLICATION WINBER: US/09/904,584
CURRENT FILING DATE: 2001-07-13
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FRIOR FILING DATE: 2000-07-14
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Pred. No. 0;
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Best Local Similarity 99.8%;
Matches 1152; Conservative
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TITLE OF INVENTION: Receptor Gene, Diagnostic Methods Using Said Allelles, TITLE OF INVENTION: Methods of Treatment Based Thereon FILE REFERENCE: 600-1-285N CURRENT APPLICATION NUMBER: US/09/904,584 CURRENT FILING DATE: 2001-07-13 PRIOR APPLICATION NUMBER: (0/218,300 PRIOR PILING DATE: 2000-07-14 NUMBER: OF SEQ ID NOS: 7 SOFTWARE: PSELSEQ for Windows Version 4.0 SEQ ID NO 6
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ORGANISM: homo sapiens
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0; Mismatches
FILE REFERENCE: 1920-4-4
CURRENT APPLICATION NUMBER: US/10/225,567A
CURRENT FILING DATE: 2001-12-19
PRIOR PRILING DATE: 2000-12-19
NUMBER OF SEQ ID NOS: 2292
SOFTWARE: Patentin version 3.1
SEQ ID NO 147
LENGTH: 1182
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Best Local Similarity 99.5%;
Matches 1148; Conservative
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; ORGANISM: HOMO
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Sequence 147, Application US/10225567A
Publication No. US20030113798A1
GENERAL INFORMATION:
EDIT OF SEQUENCE SEQUENCES
APPLICANT: Brown, Joseph P.
APPLICANT: Burner, Glenna C.
APPLICANT: Roush, Christine L.
TITLE OF INVENTION: ANTIGENIC PEPTIDES AND ANTIBODIES FOR G PROTEIN-COUPLED RECEPTORS
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| OY 841 GCAGTCTTCGTCGTCGACTCCCATTCACATATTCATCTGGTGGAGGCTCTGGGG 900 | රු සි | 1 ATGGACTCCCCGATCCAGAGCTGGGGAGCCGGGCCCTACCTGGGCCCCCGGGCGC 60 |
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| OY 901 AGCACCTCCCACAGCACAGCTGCTCTCCAGCTATTACTTCTGCATTGCCTTAGGCTAT 960 | S da | 61 TGCCTGCCCCCAACAGCGCCCTGGTTTCCCGGCTGGGCCGACAGCCGACAGCAACGGC 120 |
| OY 961 ACCAACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAACTTCAAGGGGTGT 1020 | & A | 121 AGGGCGGCTCGGAGACGCGCAGCTGGAGCCCGCGCATCTCCCCGGCCATCCCGGTC 180 |
| Oy 1021 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGGAGGAGAGACTTGAGGAGTC 1080 1034 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGAGGAGGAGAGAGCACAGAGCACTAGCAGAGTC 1093 | & Q | 181 ATCATCACGGGGGTCTACTCCGTAGTGTTCGTCGGGCTTGGTGGGCAACTCGCTGGTC 240 |
| dy 1081 CGAAATACAGTTCAGGTTCATGCTTACCTGAGGACATGGATGG | & 8 | 241 ATGTTGGTGATCATCCGATACACAAGATGAAGACAGCAACCAAC |
| Oy 1141 TGACTACTCGTCGA 1154 | è a | 301 CTGGCTTTGGCAGATGCTTTAGTTACTACCACCCTTTCAGAGTACGGTCTACTTG 360 |
| RESULT 11 US-10-345-680-19 . Geminare 19 annigation ITC/10345680 | oy da | 361 AIGAATICCTGGCCTTITGGGGAIGTGCTGTGCAAGATAGTAAITICCAITGATTACTAC 420 |
| Fublication No. US20030148394A1; GENERAL INFORMATION: APPLICATION: APPLICATION Pharmaceuticals, Inc. | P S | 421 AACATGTTCACCAGGATCTTCACCTTGACCATGATGAGGGTGGACCGGTACATTGCCGTG 480 |
| FOR TREATING ING 1435, 559, 34021, 4 | \$ 8 8 | 481 IGCCACCCCGGAAGGCTTTGGACTTCCGCACCCCTTGAAGGCAAAGATCATCATTC 540 |
| 1, 18926, 318, 2058 OR 6351 | ò q | 541 TGCATCTGGCTGTCGTCATCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA 600 |
| FRIOR APPLICATION NUMBER: US 60/349,511 FRIOR FILING DATE: 2002-01-18 FRIOR PILING DATE: 2002-01-0 FRIOR PILING DATE: 2002-01-0 | è 8 | 601 GTCAGGGAAGACGTCGATGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC 660 |
| FRIOR APPLICATION NUMBER: US 60/365,041 PRIOR FILING DATE: 2002-03-15 PRIOR PPLICATION NUMBER: US 60/374,063 | è 8 | 661 IGGIGGACCICTICAIGAAGAICTGCGICTICAICTTTGCCTTCGTGAICCCTGTCCTC 720 |
| | & 8 | 721 ATCATCATCGTCTGCTACACCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCT 780 |
| | <u>\$</u> 8 | 781 GGCTCCCGAGAGAAGATCGCGTAGGATCACCAGACTGGTCCTGGTGGTGGTG 840 794 GGCTCCCGAGAGAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTGGTG 853 |
| LICKTION UMBER: US 60/429,797 LING DATE: 2002-11-26 F SEQ ID NOS: 66 | <i>≿</i> 8 | 841 GCAGTCTTCGTCGTCTGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG 900 |
| ; SEQ ID NO 19 | B & | 901 AGCACCTCCCACAGCACAGCTGCTCTCCAGCTATTACTTCTGCATTGCCTTAGGCTAT 960 |
| CAGANASM: HOMO SADIEMS FEATURE: NAME/KEY: CDS LOCATION: (14)(1156) | & 43 | 961 ACCAACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAACTTCAAGCGGTGT 1020 |
| 99.2%; Score 1144.4; DB 15; Length 1182; ilarity 99.5%; Pred. No. 0; | <i>&</i> ₽ | 1021 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGATGGAGCGGCAGAGCACTAGCAGAGTC 1080 |
| | ò | 1 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGACATCGATGGGATGAATAAACCAGTA 114 |

| Db 1094 CGAAATACAGGTTCCAGGTTTCAGGAACAGAACAGAACA | Db 554 TGCATCTGGCTGTCGTCATCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAAA 613 |
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| 1141 TGACTAGTCGTGGA 1154 | Oy 601 GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC 660 |
| RESULT 12 | QY 661 IGGIGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC 720 Db 674 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCTGTCTCT 733 |
| US-10-305-720-1417 ; Sequence 1417, Application US/10305720 ; Publication No. US20040010136A1 ; GENERAL INFORMATION: | Qy 721 ATCATCGTCTGCTACACCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCT 780 |
| <pre>// APPLICANT: AL-Young, Janice K.; Seilhamer, Jeffrey J. // ITILE OF INVENTION: Composition for the Detection of Signaling Pathway Gene Expressic // FILE REFERENCE: PA-0002-1 CON // CURRENT APPLICATION NUMBER: US/10/305,720</pre> | Oy 781 GGCTCCCGAGAGAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCGTGGTG 840 |
| ; CURKEN! FILING DATE: 2002-11-26 ; PRIOR PILING DATE: 1998-01-30 ; NUMBER OF SEQ ID NOS: 1490 | OY 841 GCAGTCTTCGTCGTCGACTCCCATTCACATATTCATCGTGGAGGCTCTGGGG 900 |
| SEQ IN 1187 LENGTH: 1182 TYPE: DNA | Oy 901 AGCACCTCCCACAGCACAGCTGCTCTCCCAGCTATTACTTCTGCATTGCCTTAGGCTAT 960 |
|) OKCANISM: Homo sapiens FEATURE:) NAME/KEY: misc feature ? OTHER INFORMATION: Genbank ID No. US20040010136A1 g532059 | OY 961 ACCAACAGTAGCCTGAATCCCATTCTTCTACGCCTTTCTTGATGAAAACTTCAAGCGGTGT 1020 |
| ore 1144.4; DB 17; Length 1182; | OY 1021 TTCCGGGACTTTCCACTGAAGATGAGGATGGGCGGCAGAGCACTAGCAGAGTC 1080 |
| Matches 1148; Conservative U; Mismatches 6; Indels U; Gaps U; Qy | cgaaatacagttcaggat |
| OY 61 TGCCTGCCCCCAACAGCAGCGCCTGGTTTCCCGGGCGGGAGCCCGAACAGCACGGC 120 | Oy 1141 TGACTAGTCGTGGA 1154 |
| QY 121 AGGGCGGGTCGGAGGAGCGGAGCCGGGCACATCTCCCGGCCATCCCGGTC 180 | RESULT 13 US-10-283-975A-80 ; Sequence 80, Application US/10283975A |
| QY 181 ATCATCAGGGGGTCTACTCCGTAGTGTTCGTCGTGGGCTTGGTGGGCAACTCGCTGGTC 240 Db 194 ATCATCAGGGGGTCTACTCCGTAGTGTTCGTCGTGGGCTTGGTGGGCAACTCGCTGGTC 253 | ; FUDICATION NO. USZOWAULD/9ZAL ; GENERAL INFORMATION: ; APPLICANT: Ortho-Clinical Diagnostics, Inc. ; TITLE OF INVENTION: Methods For Assessing and Treating Leukemia |
| Qy 241 ATGTTCGTGATCATCGGATACACAAGATGAAGACGAACCAACATTTACATATTTAAC 300 | ; CURRENT APPLICATION NUMBER: US/10/283,975A ; CURRENT FILING DATE: 2002-10-30 ; PRIOR APPLICATION NUMBER: 60/340,938 |
| Oy 301 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG 360 | ; PRIOR FILING DATE: 2001-10-30; PRIOR APPLICATION NUMBER: 60/338,997; PRIOR FILING DATE: 2001-10-30; PRIOR APPLICATION NUMBER: 60/340,081 |
| OY 361 AIGAATICCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATITCCATTGATTACTAC 420 TO TO TO TO TO TO TO TO TO TO TO TO TO | FRIOR FILING DATE: 2001-10-30 FRIOR APPLICATION NUMBER: 60/341,012 FRIOR FILING DATE: 2001-10-30 NUMBER OF SEQ ID NOS: 900 |
| OY 421 AACATGTTCACCAGCATCTTCACCTTGACCATGATGACGTGGACCGCTACATTGCCGTG 480 | ; SOFINARE: FACERLIR VEISION 5.1 ; SOFINARE: FACERLIR VEISION 5.1 ; LENGTH: 1182 ; TYPE: DNA |
| Qy 481 TGCCACCCGGGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATC 540 Db 494 TGCCACCCGGGAAGGCTTTGGACTTCCGCACACCTTGAAGGCAAAGATCATCAATATC 553 | 7 % |
| Oy 541 TGCATCTGCCTGTGTCGTCGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA 600 | Best Local Similarity 99.5%; Pred. No. 0; Matches 1148; Conservative 0; Mismatches 6; Indels 0; Gaps 0; |

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCAACAGTAGCCTGAATCCCATTCTCTAGATGATGAAAACTTCAAGCGGTGTT
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                                                                                                                                                                                                                                                                                                                                     CGCTGGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        413 TGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTGA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACATGTTCACCAGCATCTTCACCTTGACCATGATGAGGGGTGGACCGCTACATTGCCGTGT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        <u> GGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTCA</u>
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                                                                                  Length 1284;
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                                                                                                                                                                                                                                                                                                                                     TCATCACGGCGGTCTACTCCGTAGTGTTCGTCGTGGGCTTGGTGGCCAACT
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  DB 16;
                                           3;
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0; Mismatches
    Score 1136.2;
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99.7%;
Query Match
Best Local Similarity 99.7
Matches 1138; Conservative
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Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries gb_est1::
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ORIGIN

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| 389 | 9/.17 | 2014 | 980 | 632 | 1006 | 784 | 750 | 1006 | 2048 | 429 | 836 | 998 | 2432 | 531 | 877 | 697 | 757 | 842 | 672 | 785 |
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| 19.7 | 7 | 13 | 13 | 19 | 13 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 17 | 17 | 17 |
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| 25 | 97 | 27 | 28 | 53 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |
| | | | | | | | | | | | | | | | | | | | | |

ALIGNMENTS

| | 1 (bases 1 to 855) NIH-MGC http://mgc.nci.nih.gov National Institutes of Health, Unpublished (1999) Contact: Robert Strausberg, Pi Email: Gapbs-r@mail.nih.gov Tissue Procurement: Guthrie cP CDNA Library Preparation: Gut cDNA Library Arrayed by: The DNA Sequencing by: Agencourt Clone distribution: MGC clone found through the I.M.A.G.E. C http://image.llnl.gov Plate: IRBF001 row: f column | High qual | a Note: this is a NIH MGC Library " |
|---|--|--------------------|-------------------------------------|
| RESULT 1 COUNTY DEFINITION DEFINITION VERSION VERSION VERSION SOURCE ORGANISM | REFERENCE AUTHORS TITLE JOUNNEL COMMENT | FEATURES SOUTCE | |

sapiens (human)

| / Match 69.8%; Score 805.2; DB 6; Length 895; Local Similarity 97.1%; Pred. No. 3e-200; les 841; Conservative 0; Mismatches 23; Indels 2; Gaps 2; 1 ATGGACTCCCGATCCAGATCTTCGGGGGGGGGCCTACCTGCGCCGAGGGC 60 | SOURCE ORGANISM REFERENCE |
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| | qg . |
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| | Db 26 |
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CO960667 CO960667.1 GI:51325223 EST.

ACCESSION VERSION KEYWORDS

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the Guthrie cDNA Resource Center (www.guthrie.org/cDNA)
into pcDNA3.1. For specific information on cloning sites
(which vary by clone), please refer to the Guthrie
website, using the Guthrie ID given in the file
ftp://image.lnl.gov.image.rearrayed_plates/IRBF.preSV.dat
a. Note: this is a NIH_MGC Library."
                                                                                                                                                             NIH-MGC http://mgc.ncl.nih.gov/.

NIH-MGC http://mgc.ncl.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (MGC)

Unpublished (1999)

Contact: Daniela S. Gerhard, Ph.D.

Office of Cancer Genomics

National Cancer Institute / NIH

Bldg. 31 Rml0A07 Bethead, MD 20892

Email: GgapDs-r@mail.nih.gov

Tissue Procurement: Guthrie cDNA Resource Center

CDNA Library Preparation: Guthrie cDNA Resource Center

CDNA Library Preparation: Guthrie cDNA Resource Center

CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Agencourt Bioscience Corporation

Clone distribution: MGC clone distribution information can be

found through the I.M.A.G.E. Consortium/LLNL at:

http://image.lln.gov

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361 AIGAATTCCTGGCCTTTTGGGGAATGTGCTGTGCAAGATAGTAATTTCCAFTGATTACTAC 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 Teccrecceccaacacacacaccerrestreccescrescescesacceaacacaacaacaac
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         147 AGGGCCGGCTCGGAGGAGGCGCAGCTGGAGCCCGCCACATCTCCCCGGCCATCCCGGTC 206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     207 Arcarcacecercracrecerations and arcareacecarececa 266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 ATGTTCGTGATCATCCGATACACAAGATGAAGACAGCAACCATTTACATATTAAC 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                98
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Homo sapiens
Sukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
1 (bases 1 to 762)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27 ATGGAATCCCGGATTCAGATCTTCCGCGGGGAGCCGGGCCCTACCTGCGCCCCGAGCGCC
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387 ATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTTCCATTGATTACTAC 446
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NIH-WGC http://mgc.nci.nih.gov/.
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Unpublished (1999)
Contact: Daniela S. Gerhard, Ph.D.
Office of Cancer Genomics
National Cancer Tenchtute / NIH
Bldg. 31 Rm10A07 Bethesda, MD 20892
Email: capubs-r@mail.nih.gov
Tissue Procurement: Guthrie cDNA Resource Center
cDNA Library Preparation: Guthrie cDNA Resource Center
cDNA Library Preparation: Guthrie cDNA Resource Center
cDNA Library Preparation: Guthrie cDNA Resource Center
cDNA Library Preparation: Guthrie cDNA Resource Content
cDNA Library Arrayed by: The I.M.A.G.E. Consortium(LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: WGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://mage.llnl.gov
Plate: IRBIS row: d column: 04
High quality sequence start: 214
High quality sequence stop: 494.
Location/Qualifiers
Location/Qualifiers
Location/Qualifiers
// Organism="Homo sapiens"
                                                                                             TGCCACCCCGTGAAGGCTTTGGACTTCCGCACACCTTTGGAGGCAAAGATCATCAATATC
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Pred. No. 5.3e-125;
0; Mismatches 12; Indels 1.
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Best Local Similarity 97.6%;
Matches 537; Conservative C
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ACENCOORT 15623822 NIH MGC 147 Homo sapiens cDNA clone IMAGE:30531690 5', mRNA sequence.
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Unpublished (1999)
Contact: Daniela S. Gerhard, Ph.D.
Office of Cancer Genomics
National Cancer Genomics
National Cancer Institute / NIH
Bldg. 31 RmL0A07 Betheeda, MD 20892
Email: cgapbs-romail.nih.gov
Tissue Procurement: Dr. Stefan Hansson
CDNA Library Preparation: Michael J. Brownstein (NHGRI) with help and advice from Piero Carninci (RIKEN)
CDNA Library Preparation: Michael J. Brownstein (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: NDAMG22 row: n column: 19
High quality sequence stop: 592.
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
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CTTGGAGGCACCAAAGTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCA
                                              577 ccrrcadecaccadadrea-gendeacercentererreagiecrecriceaerrecea
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1047 GATGAGGATGGAGGGGAGAGCACTAGCAGAGTCCGAAATACAGTTCAGGATCCTGCTTA 1106
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                                                                                                                                                                                                                                                                                                    www.rzpd.de
This clone is available royalty-free from RZPD;
contact RZPD (clone@rzpd.de) for further information. Seg primer:
Ml3r, Primer sequence: TTTCACACAGGAAACAGGTATGAC.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    747 GATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCTGGCTCCCGAGAGAAAAAATGCGCAACCT
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Human UnigeneSet - RZPD3 (RZPDLIB No.972)
Http://www.rzpd.de/CloneCards/Cgl.
bin/showLib.pl.cgi/response?libNo-972 Contact: Ina Rolfs
RZPD Deutsches Ressourcenzentrum fuer Genomforschung GmbH
Heubnerweg 6, D-14659 Berlin, Germany
Tel: +49 30 32639 101
Fax: +49 30 32639 111
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                   Contact: Ina Rolfs
RZPD Deutsches Ressourcenzentrum fuer Genomforschung
Im Neuenheimer Feld 580, D-69120 Heidelberg, Germany
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mol_type="mRNA"
db_xref="taxon:9606"
clone="IMAGp998B19190 ; IMAGE:134322"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 40.4%; Score 466.4; DB 5; Best Local Similarity 99.8%; Pred. No. 2.8e-111; Matches 467; Conservative 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                              organism="Homo sapiens"
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                                                                                       RZPD; IMAGp998B19190.
Jnpublished (2003)
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                                                                                                                                                                               /aclone lib= Nath MGC 147"
/clone lib= Nath MGC 147"
/note="Organ: placenta; Vector: pBluescriptR; Site_1:
JIXTATTTTTTTTTTTTTV 37, size_selected for average
insert size 2.3 Kb and normalized to ROT 5. This is a
primary library enriched for full-length clones and
constructed using the Cap-trapper method (Carninci, in
preparation). Library constructed by M. Brownstein
(NIMH/NHGRI, National Institutes of Health). Note: This is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EST 23-JAN-2003
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 (bases 1 to 480)
Bbert, L., Heill, O., Hennig, S., Neubert, P., Partsch, E., Peters, M.,
Radelof, U., Schneider, D. and Korn, B.
Human UnigeneSet - RZPD3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              477
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <u> ATGGACTCCCCGATCCAGATCTTCCGCGGGGAGCCGGGCCCTACCTGCGCCCCGAGCGCC</u>
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BX092912 Soares placenta Nb2HP Homo sapiens cDNA clone
IMAGp998B19190 ; IMAGE:134322, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 837;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 40.8%; Score 470.6; DB 7; Best Local Similarity 99.2%; Pred. No. 2.5e-112; Matches 473; Conservative 0; Mismatches 4;
                                                                                                               /clone="IMAGE:30531690"
/tissue type="Human Placenta"
/lab host="DH10B TonA"
                                              organism="Homo sapiens"
                                                                    Ltype="mRNA"
xref="taxon:9606"
Socation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                     NIH MGC library."
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/tissue_type="hypothalamus"
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/dev stagge="adult"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            451
CDNA library was prepared and sequenced in Mouse Genome
Encyclopedia Project of Genome Exploration Research Group in Ri
Genomic Sciences Center and Comme Science Laboratory in RIKEN
Division of Experimental Animal Research in Riken contributed to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCGGCTGGGCCCGAGCCCGACAGCGCCAGCGCCCGGCTCGGAGGACGCGCAGCTGGAGC
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                                                                                                                                    further details.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               37.5%; Score 432.4; DB 3; 65.8%; Pred. No. 3.6e-102;
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                                                                                                                                                                                                                                                                                                                                                          /db_xref="FANTOM_DB:A230002D02"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                         organism="Mus musculus"
                                                                                                  prepare mouse tissues.
Please visit our web site for fu
URL:http://genome.gsc.riken.jp/
URL:http://fantom.gsc.riken.jp/
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                    /clone="A230002D02"
                                                                                                                                                                                                                                                                                                      /mol_type="mRNA"
/strain="C57BL/6J"
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Analysis of the mouse transcriptome based on functional annotation of 60,707 dull-length cDNAs

L Mature 420, 563-573 (2002)

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Adachi, J., Aizawa, K., Akimura, T., Arakawa, T., Bono, H., Carninci, P., Fukuda, S., Furuno, M., Hangaki, T., Hara, A., Hashizume, W., Hayashida, K., Hayatsu, N., Hiramoto, K., Hiramoto, K., Hiramoto, K., Hara, M., Kagawa, I., Kasukawa, T., Katoh, H., Kawai, J., Kondo, S., Konno, H., Kauda, M., Nakata, M., Nakamai, J., Koja, S., Konno, H., Kauda, M., Nakata, M., Nakamai, J., Koja, S., Konno, H., Kauto, M., Ohsato, N., Okazaki, Y., Saito, R., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai, K., Sakai,
                                                                     AK038389 2405 bp mRNA linear HTC 03-APR-2004 Mus musculus adult male hypothalamus cDNA, RIKEN full-length enriched library, clone:A230002D02 product:opioid receptor, mu, AK038389
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
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/tanslation="wiguPesraelOsSPLVNLSDAFPSAFPSAGANASGSPGARSAS
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LPAKVVPILIITVCYGLMLLRLRSVRLLSGSRENDSSLRRITRWLVVVGAFVVVQAFVVVCHAP
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'clone_lib="RIKEN full-length enriched mouse cDNA library"
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Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs
Nature 420, 563-573 (2002)
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Okazaki,Y., Muramatsu,M., Inoue,Y., Kira,A. and Hayashizaki,Y. RIKEN integrated sequence analysis (RISA) system--384-format sequencing pipeline with 384 multicapillary sequencer Genome Res. 10 (11), 1757-1771 (2000)
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High-efficiency full-length cDNA cloning
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Pred. No. 3.6e-85;
0; Mismatches 337; Indels
                                                                                                                                                                     prepare mouse tissues.
Please visit our web site for further details.
URL:http://genome.gsc.riken.jp/
URL:http://fantom.gsc.riken.jp/
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /db_xref="FANTOM_DB:A230051A20"
/db_xref="taxon:10090"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /tissue_type="hypothalamus"
/clone_lib="RIKEN full-length enriched mouse cDNA library"
/dev_stage="adult"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Group Phase I & II Team.
Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs
Nature 420, 563-573 (2002)
6 (bases 1 to 2959)
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                                                                                                                                                                                                                                                                                                                                                              RIKEN Genome Exploration Research Group Phase II Team and the
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Genome Res. 10 (11), 1757-1771 (2000)
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Please visit our web site for further details.
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db_xref="taxon:10090"
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/protein id="BAC37672.1"
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URL:http://fantom.gsc.riken.jp/
Location/Qualifiers
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/strain="C57BL/6J"
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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Functional annotation of a full-length mouse cDNA
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High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
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                                                                                                                                                                                                                                                                                                                    Eukaryota., Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.

1 (bases 1 to 87).

Clark, A.G. Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A.,

Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B.,

Reriara, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J.,

Adams, M.D. and Cargill, M.
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Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Terriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J., Adams, M.D. and Cargill, M.
Direct Submission
Submitted (16-NOV-2003) Celera Genomics, 45 West Gude Drive, This sequence was made by sequencing genomic exons and ordering them based on alignment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rceacercecacacaaadeccadecrercaareacecareres
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Pred. No. 3.7e-81;
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Location/Qualifiers
                                                                                                           Homo sapiens OPRL1 gene, genomic survey sequence.
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2974 bp mRNA linear HTC 03-APR-2004 mus musculus 7 days neonate cerebellum cDNA, RIKEN full-length enriched library, clone:4730079119 product:NOCICEPTIN RECEPTOR (ORPHANIN PQ RECEPTOR), full insert sequence.
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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Carninci,P. and Hayashizaki,Y.
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AK043275.1 GI:26089596
HTC; CAP trapper.
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                                                                                                                                                                            Adachi, J., Aizawa, T., Akimura, T., Arakawa, T., Bono, H., Carninci, P., Pukuda, S., Furuno, M., Hanagaki, T., Hara, A., Hashizume, W., Hayashu, M., Hiramcto, K., Hiraoka, T., Hirozane, T., Hayashua, K., Hayatsu, M., Hiramcto, K., Hiraoka, T., Hirozane, T., Hori, F., Imotani, K., Ishii, Y., Kondo, S., Konno, H., Kawai, J., Kojima, Y., Kondo, S., Konno, H., Kawai, J., Kojima, Y., Kondo, S., Konno, H., Kouda, M., Nakamura, M., Nishi, K., Nomura, K., Numazaki, A., Murata, M., Oksato, N., Okazaki, Y., Saito, R., Sato, K., Sakai, K., Sakazume, N., Sagabe, Y., Tanaka, T., Tagawa, A., Takahashi, F., Takaku-Akahira, S., Takeda, Y., Tanaka, T., Tomaru, A., Toya, T., Yasunishi, T., Tomaru, A., Toya, T., Yasunishi, T., Tomaru, A., Toya, T., Yasunishi, A., Direct Submission Submitted (16-UL-2011) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center (GSC), RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan (E-mail:genome-res@gsc.riken.jp, URL:http://genome-gsc.riken.jp/, Tel:81-45-503-9212,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /tissue_type="cortex"
/clone_lib="RIKEN full-length enriched mouse cDNA_library"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKBN. Division of Experimental Animal Research in Riken contributed to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   213
                                                                       Group Phase I & II Team.
Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs
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// Anote="WOCICEPTIN RECEPTOR (ORPHANIN FQ RECEPTOR)
(SWISSPROT|P35377, evidence: FASTY, 97.1%ID, 100%length,
                                                 The FANTOM Consortium and the RIKEN Genome Exploration Research
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     prepare mouse tissues.

Please visit our web site for further details.

Please visit our web site for further details.

URL:http://genome.gsc.riken.jp/.

Location/Qualifiers

1. 2940

/organism="Mus musculus"
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1e-76;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29.1%; Score 335.6; DB 3;
larity 61.9%; Pred. No. 1e-76;
Conservative 0; Mismatches 339;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /mol_type="mRNA"
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/db_xref="taxon:10090"
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                                                                                                                                          Nature 420, 563-573 (2002)
6 (bases 1 to 2940)
    Nature 409, 685-690 (2001)
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2920. .29;
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Matches
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                                                                                                                                                                      RECEPTOR (ORPHANIN FQ RECEPTOR)
evidence: FASTY, 97.1%ID, 100%length,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 327.4; DB 3;
Pred. No. 1.5e-74;
0; Mismatches 301;
                                           /clone_lib="RIKEN full-leng
/dev_stage="7 days neonate"
198._.1335
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Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs
Nature 420, 563-573 (2002)
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                                                                                                                                                                                                                                    Itoh, M., Konno, H., Okazaki, Y., Muramateu, M. and Hayashizaki, Y., Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new g Genome Res. 10 (10), 1617-1630 (2000)
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RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan (B-mail:genome-res@gec.riken.jp, URL:http://genome.gec.riken.jp/, Tel:81-45-503-922, Tex:81-45-503-9216)

CDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Encyclopedia Project of Genome Exploration Research froup in Riken Division of Experimental Animal Research in Riken contributed to prepare mouse tissues.

Please visit our web site for further details.

URL:http://genome.gsc.riken.jp/
URL:http://fantom.gsc.riken.jp/
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(SWISSPROT|P35377, evidence: FASTY, 97.1%ID, 100%length,
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Exploration Research Group, RIKEN Genomic Sciences Center
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/db_xref="taxon:10090"
/clone="6330500C19"
                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Mus musculus"
/mol_type="mRNA"
/strain="C57BL/6J"
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/note="putative"
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S Adachi,J., Aizawa,T., Aizakawa,T., Bono,H., Carninci,P., Fukuda,S., Furuno,M., Hanagaki,T., Hara,A., Hashizume,W.,
Fukuda,S., Furuno,M., Hanagaki,T., Hara,A., Hashizume,W.,
Hayashida,K., Hayatsu,N., Hiramoto,K., Hiraoka,T., Hirozane,T.,
Hori,P., Imotani,K., Ishii,Y., Itoh,W., Kagawa,T., Kasukwaa,T.,
Katoh,H., Kawai,J., Kojimi,Y., Kodno,S., Konno,H., Kouda,M.,
Koya,S., Kurihara,C., Matsuyama,T., Miyazaki,A., Murata,M.,
Nakamura,M., Nishi,K., Nomura,K., Numazaki,R., Ohno,M., Ohsato,N.,
Okazaki,Y., Salto,R., Saltoh,H., Sakai,C., Sakai,K., Sakazume,N.,
Sogabe,Y., Tagami,M., Tagawa,A., Takahashi,F., Takahu-Akahira,S.,
Takeda,Y., Tamaka,T., Tomaru,A., Toya,T., Yasunishi,A.,
Muramatsu,M. and Hayashizaki,Y.
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                                                                                                                                                                                                               AK031926
3101 bp mRNA linear HTC 03-APR-2004
Mus musculus adult male medulla oblongata cDNA, RIKEN full-length
enriched library, clone:6330500C19 product:NOCICEPTIN RECEPTOR
(ORPHANIN FQ RECEPTOR), full insert sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Carninci, P., Shibata, Y., Hayatsu, N., Sugahara, Y., Shibata, K., Itoh, M., Konno, H., Okazaki, Y., Muramatsu, M. and Hayashizaki, Y. Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes Genome Res. 10 (10), 1617-1630 (2000)
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Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs
Nature 420, 563-573 (2002)
6 (bases 1 to 3101)
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
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Functional annotation of a full-length mouse cDNA collection
Nature 409, 685-690 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Carninci, P. and Hayashizaki, Y.
High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
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HTC; CAP trapper.
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CNSO4C2T 1053 bp DNA linear GSS 01-SEP-2000 Tetraodon nigroviridis genome survey sequence FUC-Ori end of clone 098B06 of library G from Tetraodon nigroviridis, genomic survey
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GSS; genome survey sequence.

Tetraodon nigroviridis

Tetraodon nigroviridis

Tetraodon nigroviridis

Tetraodon nigroviridis

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Actinopterygii; Neopterygii; Teleostei; Buteleostei; Neoteleostei;

Acanthomorpha; Acanthopterygii; Percomorpha; Tetraodontiformes;

Tetradontoidea; Tetraodontidae; Tetraodon.
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260 ACACAAAGATGAAGACAGCAACCAACATTTACATATTTAACCTGGCTTTGGCAGATGCTT
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Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Reritara, S., Wango, G., Zheng, X.H., White, T.J., Sninsky, J.J., Adams, M.D. and Cargill, M.
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This sequence was made by sequencing genomic exons and ordering them based on alignment.
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                                                          AAGATCGCAACCTGCGTAGGATCACCAGACTGGTCGTGGTGGTGGTGGCGGTTCGTCG
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Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., Tod, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Ferriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J., Direct Submission
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/organism="Mus musculus"
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/db_xref="taxon:10090'
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/locus_tag="HCM3993"
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Submitted (12-APR-2000) Genoscope - Centre National de Sequencage : BP 191 91006 EVRY cedex - FRANCE (E-mail : seqref@genoscope.cns.fr This sequence is a single read and was generated as part of a large scale clone-end sequencing project of the Tetraodon nigroviridis genome. For more information, please take a look at http://www.genoscope.cns.fr/Tetraodon.
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Roest Crollius, H., Jaillon,O., Dasilva,C., Bouneau,L., Fisher,C.,
Bernot,A., Fizames,C., Wincker,P., Brottier,P., Quetier,F.,
Saurin,W. and Weissenbach,J.
                                               Estimate of human gene number provided by genome-wide analysis using Tetraodon nigroviridis DNA sequence Nat. Genet. 25 (2), 235-238 (2000)
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/mol_type="genomic DNA"
/dbo.ref="taxon:99883"
/clone="098806"
/clone lib="G"
/note="Genoscope sequence ID : COBG098DA03SP1~end
PUC-O="Genoscope sequence ID : COBG098DA03SP1~end
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Pred. No. 4.8e-70;
8; Mismatches 230;
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SUMMARIES

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|--------|--------|-------|-----------------|-----|-----------|--------------------|
| Result | | Ouery | | | | |
| No. | Score | Match | Match Length DB | DB | ID | Description |
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| m | 1152.4 | 6.66 | 1604 | 0 | HUMOPRKIB | L37362 Homo sapien |
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| 14 | 1056.8 | 91.6 | 1396 | σ | AY168006 | AY168006 Homo sapi |
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| 19 | 912.4 | 79.1 | 1358 | 10 | RATKORIA | L22001 Rat kappa o |

| U00442 Rattus norv S81111 kappa-opioi A68828 Sequence AR409589 Sequence | AR105149 Sequence AR178399 Sequence L11065 Mouse kappa L22536 Rattus norv E08874 cDNA coding | D16829 Rattus norv AR105156 Sequence AR178406 Sequence L49477 Sus scrofa AR012105 Sus scrof AY725197 Taricha o | ~ | AF132813 Danio rer AR148257 Sequence L20684 Rattus norv D16349 Rattus norv L22455 Rat mu opio |
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ALIGNMENTS

| HSU17298 Human kappa opioid receptor (hKOR) mRNA, complete cds. U17298 U17298.1 GI:596069 Homo sapiens (human) Homo sapiens | Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 1154) Simonin, F., Gaveriaux-Ruff, C., Befort, K., Matthes, H., Lannes, B., Micheletti, G., Mattei, M.G., Charron, G., Bloch, B. and Kieffer, B. kappa-Opioid receptor in humans; cDNA and genomic cloning, chromosomal assignment, functional expression, pharmacology, and expression pattern in the central nervous system | Proc. Natl. Acad. Sci. U.S.A. 92 (15), 7006-7010 (1995) 95350200 2 (Asses 1 to 1154) Mansson, E., Bare, L. and Yang, D. 1solation of a human kappa opioid receptor cDNA from placenta Blochem. Blophys. Res. Commun. 202 (3), 1431-1437 (1994) 9433350 8060324 3 (Dasss 1 to 1154) Kieffer, B. Direct Submission Direct Submission Biotechnologie De Strasbourg, Boulevard Sebastien Brandt, Illkirch, 67400, France Location/Qualifiers 1. 1154 / Acganism="Homo sapiens" / And Lype="mRNA" / And Lype="mRNA" / Ab xref="mRNA" | /map="6q11-12" /tissue_type="placenta" 1. :1154 /gene="hKOR" |
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| RESULT 1 HSU17298 LOCUS DEFINITION ACCESSION VERSION KEYWORDS SOURCE ORGANISM | REFERENCE AUTHORS TITLE | JOURNAL MEDLINE PUBMED REFERENCE AUTHORS TITLE JOURNAL MEDLINE PUBMED REFERENCE AUTHORS TITLE JOURNAL TITLE JOURNAL FEATURES | dene |

| -0 0-0 H-H H-H | Qy 1021 TTCCGGGACTTCTGCTTTCCACTGAAGATGGGGGGGGGG | RESULT 2 CQ723157 LOCUG DEFINITION Sequence 9091 from Patent W002068579. ACCESSION CQ723157 VERSION CQ723157.1 GI:42284014 KEYWORDS SOURCE Homo sapiens (human) REMARYOLA: Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Butheria; Primates; Catarrhin; Hominidae; Homo. REFERENCE AUTHORS VERFERENCE TILLE AUTHORS Kite, such as nucleic acid arrays, comprising a majority of humanexons or transcripts, for detecting expression and other uses | thereof JOURNAL Patent: WO 02068579-A 9091 06-SEP-2002; PEATURES Location/Qualifiers 11179 source / norganism="Homo sapiens" / mol_type="unassigned DNA" / db_xref="taxon:9606" ORIGIN ONE MATCH 99.9%; Score 1152.4; DB 6; Length 1179; | Conservative Argeacreccedard Argeacreccedard TGCCTGCCCCCAACAGAI TGCCTGCCCCCAACAGAGACAGAI TGCCTGCCCCCCAACAGAGACAGAI TGCCTGCCCCCCAACAGAGACAGAAAAAAAAAAAAAAAA |
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                                                                                                                                                                                       Cloning of a human .kappa. opioid receptor from the brain Life Sci. 56, 201-207 (1995) configural source text: Homo sapiens (clone d2-115) (tissue library: genomic in lambda dash and cDNA in lambda ZAPII) fetus brain cDNA to mRNA.
Homo sapiens (human)
Homo sapiens
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Homo sapiens (clone d2-115) kappa opioid receptor (OPRKI) mRNA,
complete cds.
L37362
L37362.1 GI:722617
OPRKI gene; kappa opioid receptor; opioid receptor.
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ATGTTCGTGATCATCCGATACACAAAGATGAAGACGAACCAACATTTACATATTTAAC
                                                                                                                                           CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGCTTTG
                             CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG
                                                                                                                                                                                                                                                                              371 ATGAATICCIGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTTCCATTGATTACTAC
                                                                                                                                                                                                                                                                                                                                      AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTG
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ACCESSION VERSION KEYWORDS

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| Query Match 99.2%; Score 1144.4; DB 6; Length 1182; Best Local Similarity 99.5%; Pred. No. 8.9e-201; Matches 1148; Conservative 0; Mismatches 6; Indels 0; Gaps 0 | Qy 1 ATGGACTCCCGATCCAGATCTTCCGCGGGAACCCGGGCCCTACCTGCGCCCCGAGCGCC 60 | Qy 61 TGCCTGCCCCAACAGGAGCGCCTGGTTTCCCGGCTGGGCCCGAGCCCGAACGGC 120 1 2 2 | Qy 121 AGCGCCGGCTCGGAGGACGCCGCACGCACATCTCCCCGGCCATCCCGGTC 180 | Qy 181 ATCATCACGGGGTCTACTCCGTAGTGTTCGTGGGGCTTGGTGGGCAACTCGCTGGTC 240 bb 194 ATCATCACGGGGTCTACTCCGTAGTGTTCGTCGTGGGCTTGGTGGCCAACTCGCTGGTC 253 | QY 241 ATGTTCGTGATCATCCGATACACAAGATGAAGACGACCAACATTACATATTTAAC 300 | Oy 301 CTGGCTTTGGCAGATGCTTTAGTTACTACCAGCCTTTCAGAGTACGGTCTACTTG 360 | Qy 361 AIGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTTCCATTGATTACTAC 420 | Qy 421 AACATGTTCACCAGCATCTTCACCTTGATCATGAGGGTGGACCGCTACATTGCCGTG 480 L | Qy 481 TGCCACCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATC 540 bb 494 TGCCACCCGTGAAGGCTTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATC 553 | QY 541 TGCATCTGGCTGCTGTCATCGTCATTGGCATCTCTGCAATAGTCCTTGGAGGACCCAAA 600 L | Qy 601 GTCAGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGACTACTCC 660 | Qy 661 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCGTTGCTTCGTGATCCCTGTCCTC 720 | QY 721 ATCATCGTCTGCTACACCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCTTTTT 780 | Db 794 GGCTCCCGAGAAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTG B53 | Qy 841 GCAGTCTTCGTCGTCTGCACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG 900 L | OY 901 AGCACCTCCCACAGCTGCTCTCTCCAGCTATTACTTCTGCATCGCCTTAGGCTAT 960 | Qy 961 ACCAACAGTAGCCTGAATCCCATTCTTACGCCTTTCTTGAAAATTTCAAGCGGTGT 102 Db 974 ACCAACAGTAGCCTGAATCCCATTCTTACGCCTTTCTTGATGAAAACTTCAAGCGGTGT 103 | 1021 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGCGGCAGAGCACTAGCAGAGTC |
|---|--|--|---|---|---|---|---|--|--|--|---|---|---|--|--|--|--|---|
| Qy 421 AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTG 480 | QY 481 TGCCACCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATC 540 | Qy 541 TGCATCTGGCTGCTGTCGTTGGCATCTCTGCATAGTCCTTGGAGCACCAAA 600 | OY 601 GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACC 660 | Qy 661 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCT 720 | Qy 721 ATCATCATCGTCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTCT 780 | Oy 781 GGCTCCCGAGAGAAGGACGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTGGTGGTG 840 | Oy 841 GCAGTCTTCGTCGTCGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG 900 | Qy 901 AGCACCTCCCACAGCACAGCTGCTCTCCAGCTATTACTTCTGCATCGCCTTAGGCTAT 960 | OY 961 ACCAACAGTAGCCTGAATCCCATTCTCTAGACGAAAATTTCAAGGGTGT 1020 | OY 1021 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGCGCCAGAGCACTAGCAGAGTC 1080 | Oy 1081 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGATG | Oy 1141 TGACTAGTCGTGGA 1154 | RESULT 4 AR270854 LOCUS AR270854 1162 bp DNA linear PAT 10-APR-2003 DEFINITION Sequence 1417 from patent US 6500938. | :297 | SOURCE Unknown. ORGANISM Unknown. Unclassified. | EFEREN AUTHO TITLE JOURN | FEATURES LOCATION/QUALITIEFS SOURCE 11182 /organism="unknown" /mol type="denomic DNA" | ORIGIN |

| | 661 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATTGCCTTCCTGATCCCTGTCCTCTCTCT | RESULT 6 AX774764 LOCUS LOCUS LOCUS LOCUS LOCUS LOCUS LOCUS LOCUS LOCUS LOCUS LOCUS LOCUS LOCUS AX774764 LOCUS LOCUS LOCUS LOCUS AX774764 LOCUS LOCUS LOCUS LOCUS LOCUS AX774764 LOCUS LOC |
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LADALVITTMPPQSTVYLMNSWPFGDVLVGKLVISLVMFVIIRYTKMKTATNIYIFNLA
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1034 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGCGGCAGAGCACTAGCAGAGTC 1093
                                                                                                                                                                                                                                                                                                                            linear PRI 22-AUG-1994 complete cds.
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                                                                              1094 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAACAGTA
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                                               CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAACCAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostc Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 1182) Mansson, E., Bare, L. and Yang, D. Homisson, E., Bare, L. and Yang, D. Homisson, E., Bare, E. and Yang, D. Homisson, E., Bare, E. Commun. 202 (3), 1431-1437 (1994) 94338360
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Submitted (20-JUN-1994) Erik Mansson, Molecular Biology,
PPD, 100 Mounatain Avenue, Murray Hill, NJ 07974, USA
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Human kappa opioid receptor (hKOR) mRNA,
U11053
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/clone="phKl.3"
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Kieffer, B. and Simonin, F.
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/note="unnamed protein product"
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Location/Qualifiers
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Sequence 1 from Patent W09601898.
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/db_xref="ogi:20379020"
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LVVVVARFVCVCWTPLHFILVERALGSSTSHSTRALGSTYSSLNFILYAFLD
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S Puhl, H.L., Ikeda, S.R. and Aronstam, R.S.

Direct Submission

Lostion/Qualifiers

Institute, One Guthrie Square, Sayre, PA 18840, USA

Location/Qualifiers

rce /organism="Homo sapiens"
/mol_type="mRNA"
/mol_type="mRNA"
/fisuse_type="mRNA"
/gene='0PRKI"
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                              GCAGTCTTCGTCGTCTGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG
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Location/Qualifiers
1. 1142
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Pred. No. 4.9e-200;
0; Mismatches 1;
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                                                                                Sequence 1 from patent US 6146835.
AR141371.1 GI:15100887
                                                                                                                                                                                                                                                                                                                                   /organism="unknown"
/wol_type="unassigned
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| ORIGIN Query Match 98.6%; Score 1138.2; DB 9; Length 1143; Best Local Similarity 99.7%; Pred. No. 1.2e-199; Matches 1140; Conservative 0; Mismatches 3; Indels 0; Gaps 0; Qy 1 ATGGACTCCCGATCCAGATCTTCCGCGGGGAGCCCGGCCCTACCTGCGCCCGAGCGC 60 0 Db 1 ATGCATCCCCGATTCAGATCTTCCGCGGGGAGCCGGGCCCTACCTGCGCCCGAGCGC 60 Qy 61 TGCCTGCCCCCCAACAGCAGGCTGGTTTCCCGGCTGGCCGAGCCCGAACGCCCGAACGCC 10 Qy 61 TGCCTGCCCCCCAACAGCAGGCTGGTTTCCCGGTGGCCGAGCCCGAACGCCCAACGCC 10 And The Control of the | 121 ACCCCCCCCTCCCCCCCCCCCCCCCCCCCCCCCCCCCC | 901 AGCACCTCCCACAGCTGCTCTCCCAGCTATTACTTCTGCATCGC 961 ACCACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAAATTT 961 ACCAACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAAATTT 1 |

| Matches 1135; Conservative 0; Mismatches 8; Indels 0; Gaps 0; Qy 1 Argancreccedarccadarcraccadageccaageccaageccaageccaageccaageccaageccaageccaageccaageccaageccaageccaageca | 61 TGCCTGCCCCCAACAGCGCCTGGTTTCCCGGCTGGGCCGAGCCCGACACGCCGCGCGGCCGACACGGCCGGC | Qy 121 AGCGCCGGCTCGGACGCGCGCAGCTGGAGCCCGCGCACATCTCCCGGGCCATCCCGGTC 180 Db 121 AGCGCCGGGTCGGAGGAGGCGGCAGCCGGCGCACATCTCCCCGGCCATCCCCGGTC 180 | Qy 181 ATCATCACGGGGTCTACTCCGTAGTGTTCGTCGGCTTGGTGGCAACTCGCTGGTC 240 Db 181 ATCATCACGGCGTCTACTCCGTAGTGTTCGTCGTGGGCTTGGTGGGCAACTCGCTGGTC 240 | Qy 241 ATGTTGGTGATCGTCGGAAAGATGAAGACGGCAACCAACATTTACATATTAAC 300 | Oy 301 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG 360 | QY 361 ATGASTTCCTGGCCTTTTGGGGATGTGCTGCAAGATAGTAATTTCCATTGATTACTAC 420 Db 361 ATGASTTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTCCATTGATTACTAC 420 | Qy 421 AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTG 480 Db 421 AACATGTTCACCAGCATCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTG 480 | Oy 481 TGCCACCCGGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAGATCATCATATC 540 | Oy 541 TGCATCTGGCTGCTCATCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA 600 | Oy 601 GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGATCACTCC 600 Db 601 GTCAGGGAAGACGTCGATGCTATTGAGTGCTCCTTGCAGTTCCCAGATGATGATTACTCC 660 | CCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTC | Db GGCTCCGGAGAGAAGATGCTGCGGAGGATGAGAGTCTGGTCCTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGT | dy 901 AGCACCTCCCACAGCAGCTGCTCTCTCCAGCTATTACTTCTGCATCGCCTTAGGCTAT 960 Db 901 AGCACCTCCCACAGCACAGCTGCTCTCCCAGCTATTACTTCTGCATCGCCTTAGGCTAT 960 | Oy 961 ACCAACAGTAGCCTGAATCCCATTCTTCAGGCCTTTCTTGAAAAATTTCAAGCGGTGT 1020 | OY 1021 TICCGGGACTICTGCTTICCACTGAAGATGGGGGGGGGGG |
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| Db 593 GCCACCCGGGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCATATCT 652 Qy 542 GCATCTGGCTGCTGTCGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAAG 601 Db 653 GCATCTGGCTGTTGTTGGCATCTCTTGCAATAGTCCTTGGAGGCACCAAAG 712 | 602 TCAGGGAAGACGTCGATGACTGCTCCTTGCAGTTCCCAGATGATGACTACTCCT | Qy 662 GGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTGGTGATCCCTGA 721 | Qy 722 TCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCTG 781 | OY 782 GCTCCCGAGAGAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCGTGGTGGTGG 841 | Qy 842 CAGTCTTCGTCGTCTCGCTCCCATTCACATATTCATCCTGGTGGAGGTCTGGGGA 901 Db 953 CAGTCTTCGTCGTCGTGGACTCCCATTCACATATTCATCTGTGGAGGTCTGGGGGA 1012 | OY 902 GCACCTCCCAAGCAAGCTGCTCTCTCCAGCTATTACTTCTGCATCGCCTTAGGCTATA 961 | Qy 962 CCAACAGTAGCCTGAATCCCATTCTTCTAGGCCTTTCTTGAAAATTTCAAGGGGTGTT 1021 Db 1073 CCAACAGTAGCCTGAATCCCATTCTCTAGGCCTTTCTTGATGAAAACTTCAAGGGGTGTT 1132 | OY 1022 TCCGGGACTTCTGCTTTCCACTGAAGATGGGGGGGGGGG | OY 1082 GAAATACAGTTCAGGATCTTACCTGAGGACATCGATGGATG | Oy 1142 G 1142 Db 1253 G 1253 | | OKGANISM Homo Saplens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. REFERENCE I AUTHORS Lehmann-Bruinsma,K., Liaw,C.W. and Lin,I.L. TITLE Non-endogenous, consetitutively activated known g protein-coupled | | /organism="Homo sapiens" /mol_type="unassigned DNA" /db_xref="taxon:9606" | , Š |

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Conklin, B.R.
Selective target cell activation by expression of a G
protein-coupled receptor activated superiorly by synthetic ligand
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                                         AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTG
                                                                                                  GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGATGACTCCT
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                            ATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTTCCATTGATTACTAC
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Sequence 5 from patent US 6518480.
AR281681 GI:29717436
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/translation==wDSPIQIFRGEPGPTCAPSACLPPNSSAGSEDAQLEPAHISPPAI
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AKIINICIWILSSSYGISAVILSGSTRYNEDVOYIECSLOFPDDYSWWDLFWKICVFT
PREVIPVULITIVCYTLMILRIKSSYRIAGSTYRGSLALGYTNSSLNPILYAFILDENFKRCFRDFCFFP
KMRMERQSTSRVRNIVQDPAYLRDIDGMNKFV"
                   1140
                               1081 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAACCAGTA 1140
                                                                                                                                                                          linear PRI 25-DEC-2002 In mRNA, complete cds,
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mamalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (Dases 1 to 1396)
Lu,L.D. and Mansson, B.
Direct Submission
Submitted (23-0CT-2002) Molecular Biology, Adolor Corporation, 371
Phoenixville Pike, Malvern, PA 19355, USA
Location/Qualifiers
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Pred. No. 1.2e-184;
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/db_xref="taxon:9606"
2377. 1337
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Patent: US 6518480-A 5 11-FEB-2003;
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. 4390206 segs, 2959870667 residues Searched:

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N_Geneseq_16Dec04:* geneseqn2000s:* geneseqn2001as:* geneseqn2001bs:* geneseqn2002as:* geneseqn2002bs:* geneseqn2003as:* geneseqn2003bs:* genesegn1980s:* genesegn1990s:* Database

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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Novel isolated variant allele of human kappa opioid receptor gene, useful

Laforge KS;

Kreek MJ, Yuferov V,

WPI; 2004-389204/36.

(KREE/) KREEK M J. (YUFE/) YUFEROV V. (LAFO/) LAFORGE K S.

14-JUL-2000; 2000US-0218300P.

| Ad190108 Human kap Ad190110 Human kap Ad190116 Human kap Ad190118 Human kap | Aav49254 Mouse kap Aaq75926 Mouse kap Adr44860 Mouse kap Aaq86725 Mammalian | Adr44862 Rat kappa Ado30301 Mouse GPC Ad190120 Human kap Aaq75931 Human kap Aaq75931 Human kap Aaf85416 Nucleotid | Adr44848 Rat. mu-op Aag89222 Rat mu op Aag89223 Transcrip Aaa59499 cDNA enco Aag79199 Rat mu-su Adr44835 FIV opioi | Adr44842 FIV-NSE-H Adr44876 Plasmid p Aav61994 Human mu- Adg42250 Mu-opioid Adr44830 Human HUM Adr44837 HUMOR mut |
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| ADL90108 ADL90110 ADL90116 ADL90118 | AAV49254 AAQ75926 ADR44860 AAQ86725 | ADR44862 ADO30301 ADL90120 AAQ75931 AAF85416 | ADR44848 AAQ89223 AAQ89223 AAA59499 AAQ79199 ADR44835 | ADR44842 ADR44876 AAV61994 ADG42250 ADR44830 ADR44837 |
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| 86.6 86.2 84.9 | 78.8 78.8 78.8 78.8 | 78.8 77.8 76.1 75.2 38.7 | 38 8 8 8 8 8 8 4 4 4 4 4 4 4 4 4 4 4 4 4 | 37.9 37.9 37.7 37.5 37.5 |
| 999.4 994.6 979.4 | 909 909 909 909 2.5 2.5 2.5 | 909.2 898.2 877.8 868 446.4 | 4444.8 4444.8 4444.8 4441.8 | 436.8 436.8 434.6 433.2 |
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ALIGNMENTS

Human; kappa opioid receptor; hKOR; ss; gene; SNP; single nucleotide polymorphism; endogenous opioid system; nociception; neurotransmiter release; learning; memory; cognition; pain; cocaine; amphetramine; alcohol; tobacco; opiate; withdrawal; neuroendocrine function; reproductive function; prolactin regulation; stress responsivity; mood; affect; immune function; gastrointestinal function; analgesia; additive disease; /standard_name= "Single nucleotide polymorphism" Human kappa opioid receptor, hKOR, C1008T allele. Location/Qualifiers replace(1008,C) /*tag= a ADN30508 standard; cDNA; 1154 BP. 13-JUL-2001; 2001US-00904584. (first entry) chromosome 8q11.2. US2004097704-A1 12-AUG-2004 Homo sapiens 20-MAY-2004. ADN30508; aliele

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The invention relates to an isolated variant allele of a human kappa opioid receptor gene, comprising a DNA sequence having at least one variation in a fully defined wild-type allele of human kappa opioid receptor (MCOR) sequence appearing as ANNOSOS, where the variation comprises C852T, C948T, C1008T or their combinations. Also included are comprises C852T, C948T, C1008T or their combinations. Also included are a isolated mucleic acid molecule selectively hybridising to the variant, a cloning vector comprising the variant and an origin of replication, an expression vector comprising the variant and an origin of replication, and expression vector comprising the variant and an origin of replication, and commerced or an allele in a bodily sample taken from a subject rhe hKOR variant allele is useful for determining a susceptibility in a subject to at least one physiological response, condition or disease related to the endogenous opioid system, learning, memory, cognition, pain, occaine, camphetamine and other stimulants self-administration, behavioural sensitisation to cocaine, opiates, alcohol and tobacco, opiate, amphetamine and alcohol withdrawal, physical dependence and tolerance; camphetamine and alcohol withdrawal, physical dependence and tolerance; neuroendocrine function, reproductive function, prolactin regulation, stress responsivity, physiology and pathology of mood and affect, immune the stress responsivity, physiology and pathology of word and allele is useful for determining a therapeutically effective amount of therapeutic agent to order to induce analysis in the subject induce amount of therapeutic agent to a subject to a subject and is useful for mount of therapeutic agent to a subject to a subject subject or amount of therapeutic agent to treat the a least one additive additive additive and an expectation and an experience and account of therapeutic agent to treat the a least one additive additive and an experience and tother and and account of the argument and an experience and tother and acco
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for determining susceptibility in subject to physiological response, condition or disease related to endogenous opioid system.
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100.0%; Score 1154; DB 12;
Best Local Similarity 100.0%; Pred. No. 9.5e-275;
Matches 1154; Conservative 0; Mismatches 0; 1
                                                                                                                    Example; SEQ ID NO 4; 29pp; English
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1020 1020 1080 1080 840 840 960 960 TGCCACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATC 540 540 900 009 099 999 720 720 780 780 900 Human; kappa opioid receptor; hKOR; ss; gene; SNP; single nucleotide polymorphism; endogenous opioid system; nociception; neurotransmitter release; learning; memory; cognition; pain; cocaine; amphetemine; alcohol'; tobacco; opiate; withdrawal; neuroendocrine function; reproductive function; prolactin regulation; stress responsivity; mood; affect; immune function; gastrointestinal function; analgesia; additive disease; 481 réccaccecergaagecrirgeacrircecacacecrifgaagecaaagarcarcaararc GCAGTCTTCGTCGTCGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG 841 GCAGTCTTCGTCGTCTGCTGGACTCCCATTCACATATTCATCTGGTGGAGGCTCTGGGG AGCACCTCCCACAGCACAGCTGCTCTCTCCAGCTATTACTTCTGCATCGCCTTAGGCTAT ACCAACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAAATTTCAAGCGGTGT TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGCGGCAGAGCACTAGCAGAGTC rrcceseacrircrecritadadarcadadarcadacececadadacriadadagac CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAAACCAGTA TGCATCTGGCTGTCGTCATCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA 541 IGCATCTGGCTGCTGTCGTCATCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC TGGTGGACCTCTTCATGAAGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC ATCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGGGTCCGGCTCCTTTCT ATCATCATCATCGCTACACCCTGATGATCATCATCGCGTCTCAAGAGCGTCCGGCTCCTTTCT GGCTCCCGAGAGAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTGTG Human kappa opioid receptor, hKOR, wild-type cDNA Location/Qualifiers replace(36,T) /*tag= a BP. ADN30505 standard; cDNA; 1154 1141 TGACTAGTCGTGGA 1154 (first entry) 1141 rgacragregiesa chromosome 8q11.2. Homo sapiens 12-AUG-2004 variation ADN30505; 196 1021 1021 1081 781 901 961 541 661 199 721 721 781 841 901 601 RESULT 2 ADN30505 ò ਨੇ g g à g δ 셤 ò 원 ò g ઠે 셤 δ g ò 셤 ઠે ð

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The invention fractes to an isolated variant altere of a number Kappa opticid receptor gene, comprising as ADN30505, where the variation of variation in a fully defined wild-type allele of human kappa opticid variation. (RON3) sequence appearing as ADN30505, where the variation of comprises C852T, C948T, C1008T or their combinations. Also included are an isolated nucleic acid molecule selectively hybridising to the variant, as allowing vector comprising the variant and an origin of replication, an expression vector comprising the variant and an origin of replication, an expression vector comprising the variant and an origin of replication, an expression vector comprising the variant and an origin of replication, an expression vector comprising the variant and an origin of replication, an expression vector comprising the variant as a suspectively with the vector and a commercial test kit for determining the presence of at least one physiological response, condition or disease related to the at least one physiological response, condition or disease related to the and petendin specification, pain, cocaine, amphetamine and other stimulants self-administration, behavioural camphetamine and alcohol withdrawal, physical dependence and tolerance; neuroendocrine function, reproductive function, prolactin regulation, stress responsivity, physiology and pathology of mood and affect, immune function gastrointestrial function. The hKOR variant allele is useful for determining a therapeutically effective amount of pain reliever to authors amount of therapeutic agent to administer to a subject and subject in order to induce analgesia in the subject in the amount of therapeutic agent to a treat the at least one additione determined and algebra of the pain and allele is useful for the allele and subject to treat the at least one additione and algebra.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Novel isolated variant allele of human kappa opioid receptor gene, useful for determining susceptibility in subject to physiological response, condition or disease related to endogenous opioid system.
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                          CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAACCAGTA 1140
                                              The present invention describes a vector for delivering an opioid receptor to a nerve cell. The method comprises a sequence encoding an opioid receptor and a vector backbone. Also described: (1) a cell comprising the vector or its integrated product; (2) an animal comprising the cell; and (6) an animal producing the vector or the animal producing the vector of the animal producing the vector is administering the cell; and (6) an animal produced by the process of administering the vector to the animal. The vector is useful in preparing a composition for reducing pain in a subject. The present sequence encodes the human kappa opioid receptor, which is used in the exemplification of the present invention. The human kappa opioid receptor gene is located on chromosome 8, more specifically to 8q11-12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New vector for delivering an opioid receptor to a nerve cell comprising sequence encoding a mu-opioid receptor and a vector backbone, useful in preparing a composition for reducing pain.
                                                                                                                                                                                                                                                                                                                                                                                                                                 opioid receptor; nerve cell; analgesic; gene therapy; pain; human;
kappa opioid receptor; chromosome 8; gene; ss.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to an isolated variant allele of a human kappa opioid receptor gene, comprising a DNA sequence having at least one variation in a fully defined wild-type allele of human kappa opioid receptor (RKOR) sequence appearing as ADN30505, where the variation comprises (BSZT, C948T, C100RT or their combinations. Also included are a loning vector comprising the variant and an origin of replication, an expression vector comprising the variant associated with a promoter, a unicellular host transformed/transfected with the vector and a commercial test kit for determining the presence of at least one variation in a hKOR gene of an allele in abodily sample taken from a subject. The hKOR variant allele is useful for determining a susceptibility in a subject to at least one physical response, condition or disease related to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            useful
                                                                                                                                                                                                                             single nucleotide polymorphism; endogenous opioid system; nociception; neurotransmitter release; learning; memory; cognition; pain; cocaine; amphetramine; alcohol; tobacco; opiate; withdrawal; neuroendocrine function; reproduction; prolactin regulation; stress responsivity; mood; affect; immune function; gastrointestinal function; analgesia; additive disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      endogenous opioid system, nociception, neurotransmitter release endogenous opioid system, learning, memory, cognition, pain, cocaine, amphetamine and other stimulants self-administration, behavioural sensitisation to cocaine, opiates, alcohol and tobacco, opiate, amphetamine and alcohol withdrawal, physical dependence and tolerance, neuroendocrine function, reproductive function, prolactin regulation,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Novel isolated variant allele of human kappa opioid receptor gene, u for determining susceptibility in subject to physiological response, condition or disease related to endogenous opioid system.
                                                                                                                                                                                                                                                                                                                                                                                              /*tag= a
/standard_name= "Single nucleotide polymorphism"
                                                                                                                                                                                                                  opioid receptor; hKOR; ss; gene; SNP;
                                                                                                                                                                                       Human kappa opioid receptor, hKOR, C852T allele.
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stress responsivity, physiology and pathology of mood and affect, immune function, gastrointestinal function. The hKOR variant allele is useful for determining a susceptibility to pain in a subject and is useful for determining a therapeutically effective amount of pain reliever to administer to a subject in order to induce analoguesia in the subject. The hKOR variant allele is useful for determining a therapeutically effective amount of therapeutic agent to administer to a subject suffering from at least one addictive disease to treat the at least one addictive disease to treat the at least one additive disease. The gene for hKOR is located on chromosome 8q11.2. The present sequence is the C852T allele of hKOR.
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                                                                                                                    Novel isolated variant allele of human kappa opioid receptor gene, useful for determining susceptibility in subject to physiological response, condition or disease related to endogenous opioid system.
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                                                                                                                                                                                                                                                                                                                 Human; kappa opioid receptor; hKOR; ss; gene; SNP; single nucleotide polymorphism; endogenous opioid system; nociception; neurotransmitter release; learning; memory; cognition; pain; cocaine; amphetamine; alcohol; tobacco; opiate; withdrawal; neuroendocrine function; reproductive function; prolactin regulation; stress responsivity; mood; affect; immune function; gastrointestinal function; analgesia; additive disease;
         GCAGTCTTCGTTGTCTGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG
                                                                                                                                             CGAAATACAGTTCAGGATCCTGCTTACCTGAGGACATCGATGGGATGAATAAACCAGTA
                                   AGCACCTCCCACAGCACAGCTCTCTCCCAGCTATTACTTCTGCATCGCCTTAGGCTAT
                                                                                        961 Accaacagragecrgaareccarrereracgecrrrerrgargaaaacrreaagegrer
                                                                                                          TTCCGGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGCGGCAGAGCACTAGCAGAGTC
                                                     ACCAACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAATTTCAAGCGGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                /standard_name= "Single nucleotide polymorphism"
                                                                                                                                                                                                                                                                                                 Human kappa opioid receptor, hKOR, A843G allele.
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                                                                                                                                                                                 TGACTAGTCGTGGA 1154
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (KREE/) KREEK M J.
(YUFE/) YUFEROV V.
(LAFO/) LAFORGE K S.
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The invention relates to an isolated variant allele of a human kappa opioid receptor gene, comprising a DNA sequence having at least one variation in a fully defined wild-type allele of human kappa opioid receptor (MCOR) sequence appearing as ADN30505, where the variation comprises C852T, C348T, C1008T or their combinations. Also included are a isolated nucleic acid molecule selectively hybridising to the variant, an isolated nucleic acid molecule selectively hybridising to the variant. CC a cloning vector comprising the variant and an origin of replication, an expression vector comprising the variant associated with a promoter, a unicellular host transformed/transfected with the vector and a commercial test to determining the presence of at least one variation in a hKOR cyariant allele in a bodily sample taken from a subject. The hKOR variant allele in useful for determining a susceptibility in a subject to at least one physiological response, condition or disease release endogenous opioid system, neciception, neurotransmitter release endogenous opioid system, learning, memory, cognition, pain, cocaine, amphetamine and other stimulants self-administration, behavioural campetamine and other stimulants self-administration, behavioural campetamine and alcohol withdrawal, physical dependence and tolerance; enciced surficial susceptibility to pain in a subject and is useful for determining a therapeutically effective amount of pain reliever to deminister to a subject in order to induce analgesia in the subject. The how wariant allele is useful for determining a therapeutically effective amount of therapeutically effective amount of therapeutic agent to read the analgesia in the subject. The mount of therapeutic agent to read the analgesia in the subject in order to induce analgesia on the present sequence of the sease to treat the at least one addictive disease to treat the at least one addictive disease to treat the at least one addictive disease to treat the at least one subject in order to induce as subject and 
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99.8%; Pred. No. 5.9e-274;
ive 0; Mismatches 2; Indels
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useful

Laforge KS

Kreek MJ, Yuferov V,

WPI; 2004-389204/36.

(KREE/) KREEK M J. (YUFE/) YUFEROV V. (LAFO/) LAFORGE K S.

13-JUL-2001; 2001US-00904584 14-JUL-2000; 2000US-0218300P.

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                            GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC
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/standard_name= "Single nucleotide polymorphism"
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replace(948,C)
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20-MAY-2004.

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The invention relates to an isolated variant allele of a human kappa opioid receptor gene, comprising a DNA sequence having at least one variation in a fully defined wild-type allele of human kappa opioid receptor (MCOR) sequence appearing as ADN30505, where the variation comprises C8527, C948T, C1008T or their combinations. Also included are comprises C652T, C948T, C1008T or their combinations. Also included are comprised to comprising the variant and an origin of replication, an expression vector comprising the variant associated with a promoter, a cloning vector comprising the variant associated with a promoter, a cut-cellular host transformed/transfected with the vector and a commercial test kit for determining the presence of at least one variation in a hKOR contract allele is useful for determining a susceptibility in a subject to at least one physiological response, condition or disease related to the endogenous opioid system, learning, memory, cognition, pain, cocaine, amphetamine and other stimulants self-administration, behavioural camphetamine and alcohol withfrawal, physical dependence and tolerance; camphetamine and alcohol withfrawal, physical dependence and tolerance; converses responsivity, physiology and pathology of mood and affect, immune converse responsivity, physiology and pathology of mood and affect, immune converse responsivity, physiology and pathology of mood and affect, immune converse responsivity, physiology and pathology of mood and affect, immune converse responsivity, physiology and pathology of mood and alcohol withfrawal, physical determining a therapeutically effective amount of therapeutic agent to and pathology and therapeutically effective amount of therapeutic agent to administer to a subject and is useful for manditive amount of therapeutic agent to treat the at least one additive disease.

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Pred. No. 5.9e-274;
0; Mismatches 2; Indels
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The invention relates to an isolated variant allele of a human kappa opioid receptor gene, comprising a DNA sequence having at least one variation in a fully defined wild-type allele of human kappa opioid receptor (hKOR) sequence appearing as ADN30505, where the variation comprises C852T, C948T, C1008T or their combinations. Also included are a isolated nucleic acid molecule selectively hybridising to the variant, a cloning vector comprising the variant and an origin of replication, an expression vector comprising the variant associated with a promoter, a unicellular host transformed/transfected with the vector and a commercial cet test kit for determining the presence of at least one variation in a hKOR gene of an allele in a bodily sample taken from a subject. The hKOR variant allele is useful for determining a susceptibility in a subject to at least one physiological response, condition or disease related to the endogenous opioid system, nociception, neurotransmitter release endogenous opioid system, learning, memory, cognition, pain, cocaine, amphetamine and other stimulants self-administration, behavioural variant allele is useful for determining a therapeutically effective sensitisation to cocaine, opiates, alcohol and tobacco, opiate, amphetamine and alcohol withdrawal, physical dependence and tolerance; neuroendocrine function, reproductive function, prolactin regulation, stress responsivity, physiology and pathology of mood and affect, immune function, gastrointestinal function. The hKOR variant allele is useful for determining a susceptibility to pain in a subject and is useful for determining a therapeutically effective amount of pain reliever to administer to a subject in order to induce analgesia in the subject. The from at The present sequence one additive disease. nociception; single nucleotide polymorphism; endogenous opioid system; nociception neurotransmitter release; learning; memory; cognition; pain; cocaine; amphetamine; alcohol; tobacco; opiate; withdrawal; neuroendocrine function; reproductive function; prolactin regulation; gatress responsivity,; mood; affect; immune function; gastrointestinal function; analgesia; additive disease; Novel isolated variant allele of human kappa opioid receptor gene, u for determining susceptibility in subject to physiological response, condition or disease related to endogenous opioid system. a subject suffering /standard_name= "Single nucleotide polymorphism" is located on chromosome 8q11.2. amount of therapeutic agent to administer to a sul least one addictive disease to treat the at least Location/Qualifiers replace(846,C) Example; SEQ ID NO 7; 29pp; English. Laforge KS; 13-JUL-2001; 2001US-00904584 14-JUL-2000; 2000US-0218300P. /*tag= Yuferov V, WPI; 2004-389204/36. (KREE/) KREEK M J. (YUFE/) YUFEROV V. (LAFO/) LAFORGE K chromosome 8q11.2. US2004097704-A1 Homo sapiens 20-MAY-2004. Kreek MJ, Human; single Key allele

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Gaps

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DB 12; Length 1154;

Score 1150.8; DB 12; Lengt Pred. No. 5.9e-274; 0; Mismatches 2; Indels

Query Match 99.7%; Best Local Similarity 99.8%; Matches 1152; Conservative

Human kappa opioid receptor, hKOR, C856T allele.

(first entry)

12-AUG-2004

ADN30511;

ADN30511 standard; cDNA; 1154 BP.

RESULT 7

Sequence 1154 BP; 239 A; 338 C; 287 G; 290 T; 0 U; 0 Other;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; kappa opioid receptor; hKOR; ss; gene; SNP; single nucleotide polymorphism; endogenous opioid system; nociception; neurotransmitter release; learning; memory; cognition; pain; cocaine; amphetamine; alcohol; tobacco; opiate; withdrawal; neuroendocrine function; reproductive function; prolactin regulation; stress responsivity; mood; affect; immune function; acquiation; gastrointestinal function; analgesia; additive disease;
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useful

The invention relates to an isolated variant allele of a human kappa opioid receptor gene, comprising a DNA sequence having at least one variation in a fully defined wild-type allele of human kappa opioid receptor (hKDR) sequence appearing as ADN30505, where the variation comprises C852T, C948T, C1008T or their combinations. Also included are an isolated nucleic acid molecule selectively hybridising to the variant, a cloning vector comprising the variant and an origin of replication, an expression vector comprising the variant associated with a promoter, a unicellular host transformed/transfected with the vector and a commercial cet tif for determining the presence of at least one variation in a hKOR gene of an allele in a bodily sample taken from a subject. The hKOR variant allele is useful for determining a susceptibility in a subject to at least one physiological response, condition or disease related to the endogenous opioid system, nociception, memory, cognition, pain, cocaine, cendogenous opioid system, learning, memory, cognition, pain, cocaine, amphetamine and other stimulants self-administration, behavioural

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sensitisation to cocaine, opiates, alcohol and tobacco, opiate, amphetamine and alcohol withdrawal, physical dependence and tolerance; neuroendocrine function, reproductive function, prolactin regulation, stress responsivity, physiology and pathology of mood and affect, immune function, gastrointestinal function. The hKOR variant allele is useful for determining a therapeutically effective amount of pain reliever to administer to a subject in order to induce analgesia in the subject. The hKOR variant allele is useful for determining a therapeutically effective amount of therapeutic agent to administer to a subject suffering from at least one addictive disease to treat the at least one additive disease. The gene for hKOR is located on chromosome 8q11.2. The present sequence is the G36T allele of hKOR.
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Sequence 1154 BP; 239 A; 339 C; 286 G; 290 T; 0 U; 0 Other;

009 9 099 720 720 780 780 840 420 480 480 540 540 900 240 240 300 300 360 ATGAATICCIGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTTCCATTGATTACTAC 420 TGCCTGCCCCCCAACAGCGCCTGGTTTCCCGGCTGGGCCGAGCCCGAACGCAACGC 120 180 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG 360 9 9 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG TGGTGGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC Arcarcaceecearcracrcceraererrcercereeecrreereecaacrcecreere AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTG TGCATCTGGCTGCTGTCGTCTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA recarcreecreretrearcrearedecarcretecaraaecretreeaecaccaaa GTCAGGGAAGACGTCGATGACTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGATGACTCC TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCTC Arcarcarcereracaccerdargarcerecerereragagegreegecereerrer GGCTCCCGAGAGAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTGGTG ATCATCACGGCGGTCTACTCCGTAGTGTTCGTCGGGCTTGGTGGGCAACTCGCTGGTC AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTG TGCCACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATC GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC ATCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCT ATGGACTCCCCGATCCAGATCTTCCGCGGGAGCCTGGCCCTACCTGCGCCCCCAGGCCCCAGCCCC AGCGCCGGCTCGGAGGACGCGCAGCTGGAGCCCGCGCACATCTCCCCGGCCATCCCGGTC 1 ATGGACTCCCCGATCCTCCGCGGGGAGCCGGGCCCTACCTGCGCCCCGAGCGCC Gaps DB 12; Length 1154; ; 0 2; Indels Query Match
99.7%; Score 1150.8; DB 12
Best Local Similarity 99.8%; Pred. No. 5.9e-274;
Matches 1152; Conservative 0; Mismatches 2; 61 121 121 181 181 241 361 541 661 721 781 61 241 301 301 361 421 421 481 481 541 601 601 661 QQ ò g ò 원 장 g 셤 g Op 장 염 ò g 8 ઠે g ઠે 8 % 8 8 8 ò à ò ò

* isolated antigenic peptides e.g., for G protein-coupled receptors PCR), useful for diagnosing and designing drugs for treating conditions which GPCRs are involved, e.g. AIDS, Alzheimer's disease, cancer or

(LIFE-) LIFESPAN BIOSCIENCES INC

Burmer GC, Roush CL, WPI; 2003-046718/04. P-PSDB; ABP81832.

19-DEC-2000; 2000US-0257144P.

Disclosure; Fig 1; 523pp; English.

autoimmune diseases.

New isolated

(GPCR) in which

1020 1080 1020 1140 1140 G protein-coupled receptor; GPCR; antigenic peptide; gene therapy; g protein-coupled receptor modulator; antibody; immune-related disease; growth-related disease; cell regeneration-related disease; Alzheimer disease; autoimmune disease; Alzheimer's disease; atherosclerosis; infection; osteoarthritis; allergy; osteoporosis; cardiomyopathy; inflammation; Crohn's disease; diabetes; graft versus host disease; Parkinson's disease; multiple sclerosis; pain; psoriasis; anxiety; depression; schizophrenia; dementia; memory loss; mental retardation; epilepsy; asthma; tuberculosis; obesity; nausea; hypertension; hypertension; renal disorder; rheumatoid arthritis; trauma; 840 960 960 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAAACCAGTA AGCACCTCCCACAGCAGCAGCTGCTCTCCAGCTATTACTTCTGCATCGCCTTAGGCTAT TTCCGGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGCGGCAGAGCACTAGCAGAGTC CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAACCAGTA 841 GCAGTCTTCGTCGTCTGCTGCACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG ACCAACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAATTTCAAGCGGTGT Accaacagragecreaarcecarrereracecerrrerreargaaaacrreaagegerer Human opioid receptor kappa 1 nucleotide SEQ ID NO:147. BP. 19-DEC-2001; 2001WO-US050107. ABZ42678 standard; DNA; 1182 TGACTAGTCGTGGA 1154 (first entry) GCAGTCTTCGTCGT WO200261087-A2 ulcer; gene; Homo sapiens. 04-MAR-2003 08-AUG-2002 1081 1081 1141 1141 901 196 1021 1021 ABZ42678; 841 901 196 781 ABZ42678 RESULT qq 셤 δ g ð 셤 ઠ g ò 셤 ò ò

us-09-904-584-4.rng

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The present invention describes antigenic peptides (I) comprising: (a) any one of 1601 sequences (see ABP82019 to ABP83619) of 12-24 amino acids. Also described: (1) an assay for the detection of a particular G protein-coupled receptor (GPCR) or a candidate polypeptide in a sample; and (2) an isolated antibody having high specificity and high affinity or avidity for a particular GPCR. (I) can be used as GPCR modulators and in gene therapy. The antigenic peptides for GPCRs are useful in detecting an antibody against a particular GPCR, and in the production of specific antibodies. The peptides are also useful in detecting the CC antibodies are last outselful for detecting the presence or absence of corresponding GPCRs. The antigenic peptides for GPCRs and antibodies are useful for diagnosing and designing drugs for treating immune-related diseases, growth-related diseases, call regeneration-related diseases, e.g. AIDS, Alzheimer's disease, atheroselevosis, bacterial, fungal, protozoan or viral infections, osteoporosis, cancer, cardiomyopathy, chronic and acute inflammation, allergies, Crohn's disease, diabetes, graft versus host classase, parkinson's disease, multiple sclerosis, pain, psoriasis, anxiety, depression, schizophrenia, dementia, mental retardation, memory conservation, renal disorders, rheumacioid arthritis, rauma, ulcers, or any other disorder in which GPCRs are involved The antibodies may be used in immunoassays and immunodishes, absides in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the articular in the arti
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Best Local Similarity 99.5%; Pred. No. 2.3e-272;
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GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC
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30-OCT-2001; 2001US-0340081P.
30-OCT-2001; 2001US-0340938P.
30-OCT-2001; 2001US-0341012P.
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                                                                                                                                                                                                                                                                                                                                                                                                              Identifying a compound for treating urological disorders, for example urinary incontinence by assaying the ability of the compound to modulate the nucleic acid expression or polypeptide activity.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Page 149-151; Opp; English.
                                                                                                                                                                                                                                                                                        Karicheti V;
28-FEB-2002; 2002US-0360500P.
15-MRR-2002; 2002US-035641P.
19-ARG-2002; 2002US-0374063P.
14-AUG-2002; 2002US-0403468P.
27-SEP-2002; 2002US-0419568P.
21-OCT-2002; 2002US-0419968P.
05-NOV-2002; 2002US-04293909P.
                                                                                                                                                                                                                                     (MILL-) MILLENNIUM PHARM INC
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Best Local Similarity 99.5
Matches 1148; Conservative
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P-PSDB; AAE38589.
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signalling pathway population; cancer; adenocarcinoma; leukaemia;
immunopathy; AIDS; asthma; neuropathy; Alzheimer's disease; microarray.
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ATCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGGGTCCGGCTCCTTTCT
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polynucleotide probes comprising a sequence selected from one of the 1490 sequences mentioned in the specification. The combination is useful as an array element in a microarray for monitoring the expression of a number of target polynucleotides. The microarray is particularly useful in the diagnosis and treatment of cancer and immunopathology and neuropathology. The microarray is useful in diagnostics and treatment regimens, drug discovery and development, toxicological and carcinogenicity studies, consists and pharmacogenomics. The microarray is also useful for monitoring progression of diseases and for developing sophisticated profiles for the effects of currently available therapeutic drugs. The combination is also useful for purifying a subpopulation of mRNAs, cDNAs and genomic fragments and in research and diagnostic applications. The array can detect changes in expression in a large number of genes coding for different signaling pathway populations which can be used to diagnose various diseases including cancer e.g. adenocarcinoma and leukaemia, immunopathies e.g. AIDS and asthma, neuropathies e.g. Alzheimer's disease roome the printed specification but was obtained in electronic form the printed specification but was obtained in electronic formet directly from USPTO tarks.
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Pred. No. 2.3e-272;
0; Mismatches 6; Indels 0;
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Matches 1148; Conservative
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1020 1033 1080 Human; probe; ss; receptor-like polypeptide; transducing polypeptide; effector-like polypeptide; cancer; immunopathology; neuropathology; drug development; toxicology; carcinogenicity; signalling pathway polypeptide; adrenal gland; bladder; bone; bone marrow; brain; breast; cervix; tumour; immunopathology; diabetes; pancreatitis; osteoporosis; ulcerative colitis; neuropathology; dementia; amnesia; epilepsy; Alzheimer's disease; depression. 840 853 900 960 973 733 793 New composition comprising polynucleotide probes, useful as array elements in a microarray for monitoring the expression of target polynucleotides or purifying a subpopulation of mRNAs, cDNA, or genomic regreedaccrerreargaacarerecererrearcrirecerrecerearcerere GGCTCCCGAGAGAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTGGTG GCAGTCTTCGTCGTCTGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG AGCACCTCCCACAGGACAGCTGCTCTCCAGCTATTACTTCTGCATCGCCTTAGGCTAT ACCAACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAATTTCAAGCGGTGT 974 ACCAACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAAACTTCAAGCGGTGT TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGCGGCAGAGCACTAGCAGAGTC Treceggaetrecerritecaergaagargaagargeagegeeagegeerrageagagre CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAACCAGTA ATCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCCGGCTCCTTTCT Gecrecceaeadaaaeareccaaecrecerageareaecrecaeaerecrecregregregre Human polynucleotide probe #1417. BP ADI56615 standard; DNA; 1182 26-NOV-2002; 2002US-00305720. 98US-00016434 1154 (INCY-) INCYTE GENOMICS INC. (first entry) WPI; 2004-090520/09. US2004010136-A1 30-JAN-1998; Homo sapiens 22-APR-2004 15-JAN-2004 1021 1034 1081 1141 734 794 841 854 901 961 ADI56615; 721 781 RESULT 13 ADI56615 PART TO THE PART OF THE PART O

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                                                             The invention relates to a composition of polynuclectide probes comprising first polynuclectide probes comprising at least a portion of a gene encoding a receptor-like polypeptide, second polynuclectide probes comprising at least a portion of a gene encoding a transducing comprising at least a portion of a gene encoding at least a portion of a gene encoding an effector-like polypeptide. The probes of the composition are useful as array elements in a microarray for monitoring the expression of target polynuclectides. The microarray for monitoring the expression of target polynuclectides. The microarray is useful in the diagnosis and treatment of cancer, an immunopathology or a neuropathology. It can also be used for drug discovery and development, toxicological and carcinogenicity studies, forensics or pharmacogenomics. Microarrays can also be used for monitoring the progression of diseases that may be associated with the altered expression of signalling pathway polypeptides. The composition can also be used to purify a subpopulation of mRNAs, cDNAs, or genomic fragments in a sample. The expression profile is also useful for the diagnosis and treatment of cancer, e.g. cancers of the adrenal gland, bladder, bone, bone marrow, brain, breast or cervix, an immunopathology, e.g. ALDS, diababees, pancreatitis, osteoporosis or ulcerative colitis, or a neuropathology, e.g. dementia, amnesia, cepilepsy, Alzheimer's disease or depression. This sequence represents a chuman polynuclectide probe of the invention. Note: The sequence data for contine contains a near a directly from uspro at
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                                   Claim 6; SEQ ID NO 1417; 73pp; English
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                                                                                                                  This cDNA sequence comprises the coding region for human kappa opioid receptor (KOR, see AAW30297), a G protein-coupled receptor implicated in receptor (KOR, see AAW30297), a G protein-coupled receptor implicated in neurotransmissian. A novel method for selectively activating a target cell (TC) comprises: (1) introducing into the cell a nucleic acid sequence (I) that expresses a G protein-coupled receptor (A) modified to be activated superiorly by a synthetic ligand (RASSL); and (ii) exposing the transfected cell to small synthetic molecules (B) that bind to and activate (A), inducting the G protein coupled cellular response associated with receptor activation. (A) has: (a) decreased binding affinity for selected natural ligand of the native receptor; (b) binding affinity for (B); and (c) is activated by binding (B) sulficiently to produce the required cellular response. Also new are: (1) transgenic cells including cransfected with (I); (3) isolated (I); and (4) transgenic non-human animals expressing (A). Activation of (A) results, in vitro or in vivo, controlleration, or secretion of a cellular product, animals expressing (A). Activation of (A) results, in vitro or in vivo, particularly a heterologous therapeutic protein encoded by a second inserted nucleic acid sequence. Particularly it is used to expand the contraction, or pigment production. In transgenic animals, expression or stimulation of (A) is designed to develop cardiac migration and contraction, or pigment production. In transgenic animals, expression or stimulation of (A) is designed to develop cardiac carrythmia, symptoms of bone disease, selzures, vascular contractions, dementia, neurodegeneration etc., for use as models of these diseases (claimed). The transgenic animals are also used for production of altered fat/lean ratios) or to control fertility or induce labour. A calterived from KOR, designated RASSL ORI (see AAW30299), was
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                           Selective activation of target cell expressing modified G protein coupled receptor - allows control of cellular proliferation, especially for amplification of transfected cells in gene therapy.
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Pred. No. 1.2e-271;
0; Mismatches 1;
                                                                                          Example 1; Page 74-76; 117pp; English
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Matches 1142; Conservative
P-PSDB; AAW30297
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/note= "incomplete termination codon"
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Search completed: April Job time: 703.667 secs
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                                                                                                                                                                                                                                                      This sequence codes for the human kappa opioid receptor and was obtained from two overlapping cDNA fragments isolated from a human placental cDNA library. The fragments were amplified from the library using PCR primers based on the sequence of human genomic clones which hybridised with a murine delta receptor cDNA probe. Nucleotide probes derived from the kappa opioid receptor coding sequence are useful for diagnosis of neurological, cardio- vascular and psychiatric disorders associated with
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                                                                                                                                                                                           a opioid receptor - useful in receptor ligands and modulators.
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                                                                                                                                                                                                                                                                                                                                                                           Sequence 1142 BP; 236 A; 337 C; 283 G; 286 T; 0 U; 0 Other;
                                                                                                                                                                                          New nucleic acid encoding the human Kappa diagnosis and therapy, and for isolating x
                                                                                                  (UYST-) UNIV PASTEUR STRASBOURG LOUIS
                                                                                                                                                                                                                              Claim 3; Page 13-15; 30pp; French
                                                  95WO-FR000912
                                                                           94FR-00008531
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Matches 1141; Conservative
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Sequence

Sequence 1, Appli Sequence 16, Appli Sequence 10, Appli Sequence 546, App Sequence 544, App Sequence 11, Appli Sequence 15, Appli Sequence 15, Appli Sequence 17, Appli Sequence 17, Appli Sequence 17, Appli Sequence 17, Appli Sequence 17, Appli Sequence 17, Appli Sequence 17, Appli Sequence 17, Appli Sequence 17, Appli Sequence 17, Appli Sequence 17, Appli Sequence 18, Appli Sequence 18, Appli Sequence 18, Appli

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Title: Perfect score:

Sequence:

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Scoring table:

Searched:

Minimum DB Maximum DB

Database

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| Sequence 1417, Application US/09016434
| Patent No. 6500336
| GENERAL INFORMATION:
| APPLICANT: Janice Au-Young
| APPLICANT: Jeffrey J. Seilhamer
| TITLE OF INVENTION: COMPOSITION FOR THE DETECTION OF SIGNALING
| TITLE OF INVENTION: PATHWAY GENE EXPRESSION
| NUMBER OF SEQUENCES: 1490
| CORRESPONDENCE ADDRESS:
| ADDRESSEE: INCYTE PHARMACEUTICALS, INC.
| STREET: 3174 PORTER DRIVE
| CITY: PALO ALTO
| STRATE: CALLFORNIA
| COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 1144.4; DB 4; Length 1182; Pred. No. 1.7e-283;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER FEADABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: DEADASTER: PC-DOS/MS-DOS
SOFTWARE: Word Perfect 6.1 for Windows/MS-DOS
SOFTWARE: Word NoTA:
APPLICATION NUMBER: US/09/016,434
FILING DATE: HEREWITH
CLASSIFICATION:
                                US-09-761-962A-9
US-09-761-962A-10
US-09-826-509-544
US-09-214-904-1
US-09-761-962A-4
US-08-387-707-15
US-08-405-271A-15
US-08-405-271A-15
US-08-405-271A-15
US-08-405-271A-17
US-08-405-271A-17
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ATTORNEY/AGENT INFORMATION:
NAME: Zeller, Karen J.
REGISTRATION NUMBER: 37,071
REFERENCE/DOCKET NUMBER: PA-0002 US
TELECOMMUNICATION INFORMATION:
TELEPAX: (650) 845-4166
INFORMATION FOR SEQ ID NO: 1417:
SEQUENCE CHARACTERISTICS:
LENGTH: 1182 base pairs
TYPE: mucleic acid
TYPE: mucleic acid
TYPE: mucleic acid
TYPE: mucleic acid
TYPE: STRANDENESS: single
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                         PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
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Best Local Similarity
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(cgn2_6/ptodata/1/ina/5A_COMB.seq:*
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(cgn2_6/ptodata/1/ina/6A_COMB.seq:*
(cgn2_6/ptodata/1/ina/PcTUS_COMB.seq:*
(cgn2_6/ptodata/1/ina/PcTUS_COMB.seq:*
          GenCore version 5.1.6
(c) 1993 - 2005 Compugen Ltd.
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US-08-765-743-1
US-09-341-446B-3
US-09-341-446B-5
US-09-341-446B-7
US-09-341-446B-7
US-09-341-904-5
US-09-147-592A-1
US-08-1292-694A-11
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US-08-120-601B-1
US-08-120-601B-3
PCT-US94-10358-1
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Maximum Match 100%
Listing first 45 summaries
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                      FILING DATE: 11-JUL-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/FR95/00912
APPLICATION NUMBER: WO PCT/FR95/00912
FILING DATE: 07-JUL-1995
ATTORNEY/AGENT INFORMATION:
NAME: PATCH, Andrew J. 925
REFERENCE/DOCKET NUMBER: NX 1758-1P US
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEFAX: (703) 521-2297
TELEFAX: (703) 685-0573
TELEFAX: (1703) 6
FR 94/08531
        APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; NAME/KEY: CDS
; LOCATION: 1..1142
US-08-765-743-1
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Sequence 1, Application US/08765743

Fatent No. 6146835

GENERAL INFORMATION:
APPLICANT: KIEFFER, Brigitte
APPLICANT: SIMONIN, Frederic
TILLE OF INVENTION: HUMAN KAPPA OPIOID RECEPTOR, NUCLEIC
TITLE OF INVENTION: ACIDS AND USES THEREOF
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
ADDRESSEE: 745 South 23rd Street
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/765,743
FILING DATE: 11-FEB-1997
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
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STATE: Virginia
COUNTRY: U.S.A.
ZIP: 22202
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GCCTGCCCCCCAACAGCAGCGCCTGGTTTCCCGGGCTGGGCCGAGCCCGACACGCAACGGCA
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; Sequence 3, Application US/09341446B
; Patent No. 6518480
; GENERAL INFORMATION:
; APPLICANT: CONKLIN, Bruce R.
; TITLE OF INVENTION: Expression of A G Protein-Coupled Receptor Activated
; TITLE OF INVENTION: Superiorly By Synthetic Ligand
; TITLE OF INVENTION: Superiorly By Synthetic Ligand
; TITLE OF INVENTION: Superiorly By Synthetic Ligand
; TITLE OF INVENTION: Superiorly By Synthetic Ligand
; FILE REFERENCE: UCAL-049CIP
; CURRENT PAPLICATION NUMBER: PCT/US97/05334
; PRIOR APPLICATION NUMBER: DCT/US97/05334
; PRIOR PILING DATE: 1997-03-25
; PRIOR PILING DATE: 1997-03-26
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 3
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Pred. No. 2.2e-281;
0; Mismatches 3;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 99.7%;
Matches 1138; Conservative
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US-09-341-446B-3
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ORGANISM: Artificial Sequence
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Best Local Similarity
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                                                    Sequence 542, Application US/09826509
Fatent No. 6806054
GENERAL INFORMATION:
HEAPLICANT: Liaw, Chen W.
HAPPLICANT: Liaw, Chen W.
HILE REFERENCE: AREN-207
HILE REFERENCE: AREN-207
HILL OF INVENTION: Protein-Coupled Receptors
HILL OF INVENTION: Protein-Coupled Receptors
HILL OF INVENTION: Protein-Coupled Receptors
HILL OF INVENTION: PROTE: 2001-04-05
HILL OF INVENTION: UNMBER: 60/195,747
HILL OF FILING DATE: 1998-10-13
HIOR FILING DATE: 1998-10-13
HIOR FILING DATE: 1998-10-13
HUMBER OF SEQ ID NOS: 589
HIOR FILING DATE: 1998-10-13
HUMBER OF SEQ ID NOS: 589
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                                                                                                                                                                                                                                                                                                                                                                       ; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-826-509-542
                           RESULT 5
US-09-826-509-542
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GENERAL INFORMATION:
APPLICANT: Conklin, Bruce R.
TITLE OF INVENTION: Selective Target Cell Activation By
TITLE OF INVENTION: Selective Target Cell Activation By
TITLE OF INVENTION: Superiorly By Synthetic Ligand
TITLE OF INVENTION: Superiorly By Synthetic Ligand
TITLE OF INVENTION: Superiorly By Synthetic Ligand
TITLE OF INVENTION: Superiorly By Synthetic Ligand
TITLE OF INVENTION: Superiorly By Synthetic Ligand
TITLE OF INVENTION: Superiorly By Synthetic Ligand
TITLE OF INVENTION: 1999-12-20
TITLE OF INVENTION NUMBER: US/09/341,446B
CURRENT FILING DATE: 1999-12-20
PRIOR FILING DATE: 1997-03-25
PRIOR FILING DATE: 1997-03-26
NUMBER OF SEQ ID NOS: 12
SOFTWARE: FREESEQ for Windows Version 4.0
SEQ ID NOS: 12
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661 TGGTGGGACCTCTTCATGAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC
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APPLICANT: Conklin, Bruce R.
TITLE OF INVENTION: Selective Target Cell Activation By
TITLE OF INVENTION: Expression of A G Protein-Coupled Receptor Activated
TITLE OF INVENTION: Superiorly By Synthetic Ligand
TITLE OF INVENTION: Superiorly By Synthetic Ligand
FILE REFERENCE: UCAL-049CIP
CURRENT APPLICATION NUMBER: US/09/341,446B
CURRENT FILING DATE: 1999-12-20
PRIOR APPLICATION NUMBER: PCT/US97/05334
PRIOR FILING DATE: 1999-03-25
PRIOR FILING DATE: 1999-03-25
NUMBER OF SEQ ID NOS: 12
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 7
LENGTH: 1275
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Pred. No. 4.5e-245;
0; Mismatches 74;
                                                                                                       Sequence 7, Application US/09341446B
Patent No. 6518480
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: DNA ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           86.2%;
llarity 92.7%;
Conservative
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Best Local Similarity
Matches 1058; Conserv
               1244
                                                                                        US-09-341-446B-7
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                                                                 Score 909.2; DB 4;
Pred. No. 3.7e-223;
0; Mismatches 153;
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Best Local Similarity 86.7%;
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TITLE OF INVENTION: TRANSGENIC ANIMAL IN WHICH THE E.
TITLE OF INVENTION: OF OPPIATE RECEPTORS IS MODIFIED
NUMBER OF SEQUENCES: 6
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
COMPATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25 (EPR
CURRENT APPLICATION DATA:
RPELICATION NUMBER: US/09/214,904
FILING DATE:
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FILING DATE: 15-JUL-1996
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 1408 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
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MOLECULE TYPE: DNA (genomic)
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| 1 ATGGACTCCCGGATCCAGATCTTCCGCGGGAGCCGGGCCCTACCTGCGCCCCCGAGCGCC 60 | TGCCTTCTCCCCAACAGCAGCTCTTGGTTCCCCAACTGGGCAGAATCCGACAGTAATGGC 3 AGCGCCGGCTCGGAGGAGGCGGCGCAGCTGGAGCCGGCGCAACTCCCCGGCCATCCCGGTC 1 | 306 AGTGTGGGCTCAGAGGATCAGCAGCTGGAGTCCGCGCACATCTCTCCGGCCATCCTGTT 365 181 ATCATCACGGCGGTCTACTCCGTAGTGTTCGTGGGGGCTTGGTGGGCAACTCGCTGGTC 240 | 241 ATGTTCGTGATCATCCGATACACAAAGATGAAGACAGCAACCAAC | 301 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG 360 | 361 AIGAATICCIGGCCTITIGGGGAIGIGCIGCAAGAIAGIAAITITCCAITGAITACIAC 420 | 421 AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGGGTGGACCGCTACATTGCCGTG 480 | 481 IGCCACCCCGIGAAGGCTTIGGACTICGCACACCCTIGAAGGCAAAGATCATCAATAIC 540 | 541 IGCATCIGGCIGCCGTCATCIGITGGCAICTCIGCAAIAGTCCTIGGAGGCACCAAA 600 | 601 GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTCC 660 [| 661 IGGIGGGACCICTICATGAAGATCTGCGICTTCATCTTTGCCTTCGTGATCCCTGTCCTC 720 [| 721 ATCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCT 780 | 781 GGCTCCCGAGAGAAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTGGTG 840 | 841 GCAGTCTTCGTCGTCGTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG 900 | AGCACCTCCCACAGCACCAGCTATTACTTACTTCTGCATCGCTTAGGCTAT 960 | ACCAACAGTAGCTCCATTCTCTACGCCTTCTTGATGAAAATTTCAAGGGGTGT 1 | 1146 ACCAACAGCAGCCTGAATCCTGTTCTCTATGCCTTTCTGGATGAAACTTCAAGGGGTGT 1205 | TTTAGGGACTTCTGCTTCCCTATTAAGATGCGAATGGAGCGCCAGAGCACCAATAGATT 1 TTTAGGGACTTCTGCTTCCCTATTAAGATGCGAATGGAGCGCCAGAGCACCCAATAGATT 1 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAACCAGTA 1 |
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| Db 1144 ACCAACAGCAGCCTGAATCCTGTTCTCTATGCCTTTCTGGATGAAAACTTCAAGCGGTGT 1203 Qy 1021 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGAGGGGGGAGAGCACTAGCAGAGTC 1080 | Qy 1081 CGAAATACAGTTCAGGTCCTGCTTACCTGAGGGACATGGATGAATAAACCAGTA 1140 | Qy 1141 TGACTAGTCGTGGA 1154 | RESULT 9 US-08-147-592A-1 ; Sequence 1, Application US/08147592A ; Patent No. 6096513 | ; GENERAL INFORMATION: ; APPLICANT: Bell, Graeme I ; APPLICANT: Relsine, Terry ; APPLICANT: Yasuda, Kazuki | NA SERVICE | 5 m 2 m | BELL | patible -DOS/MS-DOS elease #1.0, A: | ; APPLICATION NUMBER: US/08/147,592A ; FILING DATE: 05-NOV-1993 ; CLASSIFICATION: 435 ; PRIOR APPLICATION DATA: | ; APPLICATION NUMBER: 08/100,694 ; FILING DATE: 30-JUL-1993 ; CLASSIFICATION: 435 ; APPLICATION NUMBER: 08/066,296 | ; FILING DATE: 20-MAY-1993 ; CLASSIFICATION: 435 ; ATTORNEY/AGENT INFORMATION: ; NAME: Wilson, Mark B. | ; REGISTRATION NUMBER: 37,259 ; REFERENCE/DOCKET NUMBER: ARCD:105 ; TELECOMMINICATION INFORMATION: ; TELEPHONE: (512) 418-3000 | ; TELEFAX: (512) 474-7577 ; TELEX: N/A ; INFORMATION POS EQ ID NO: 1: | E CON | ; TOPOLOGY: Inhear ; MOLECULE TYPE: DNA ; FEATURE: : NAWE/KEY: CDS | | Query Match 78.8%; Score 909.2; DB 3; Length 1410; Best Local Similarity 86.7%; Pred. No. 3.7e-223; Matches 1001; Conservative 0; Mismatches 153; Indels 0; Gaps 0; |

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Patent No. 6319686
GENERAL INFORMATION:
APPLICANT: BELL, GRAEME
APPLICANT: REISINE, TERRY
APPLICANT: REISINE, TERRY
APPLICANT: YASUDA, KAZUKI
TITLE OF INVENTION: OPIOID RECEPTORS: COMPOSITIONS AND METHODS
NUMBER OF SEQUENCES: 46
CORRESPONDENCE ADDRESS:
ADDRESSES: ADDRESSE: ADDRESS: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES: ADDRESSES:
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OPERATING SYSTEM: PC-DOS/MS-DOS/ASCII
SOCTAME: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/292,694A
FILING DATE: AUGUST 19, 1994
CLASSIFICATION NUMBER: 08/066,296
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/066,296
FILING DATE: 20 May 1993
CLASSIFICATION: 435
APPLICATION:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE/DOCKET NUMBER: ARCD:140/WIM
ELECOMMUNICATION INFORMATION:
TELEPHONE: (512) 418-3000
TELEPHOXE: (713) 789-2679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
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CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: MARK B. WILSON
REGISTRATION NUMBER: 37,259
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                                                                                               TGACTAGTCGTGGA 1154
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INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 1410 base pairs
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Best Local Similarity 86.7
Matches 1001; Conservative
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STATE: Texas
COUNTRY: USA
ZIP: 77210
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                                                                                                                                                                                                                                                             RESULT 10
US-08-292-694A-1
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US-08-292-694A-1
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483 326

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543 386 603 446 663 506 723 999 783 626 843 686 903 746

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1024 CGGGACTTCTGCTTTTCCACTGAAGATGAGGATGGAGCGGCAGAGCACTAGCAGAGTCCGA 1083
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                                                                                  147 GCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTGATG
                                                                                                                                                                    207 AATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTTCCATTGATACTACAAC
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                                                                                                                                           AATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTTCCATTGATTACTACAAC
                                                                                                                                                                                                                                                  267 AIGTICACCAGCATCTICACCTIGACCATGATGAGCGTGGACCGCTACATIGCCGTGTGC
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Patent No. 6319686
GENERAL INFORMATION:
APPLICANT: BELL, GRAEME
APPLICANT: REISTINE, TERRY
APPLICANT: YASUDA, KAZUKI
TITLE OF INVENTION: OPIOID RECEPTORS: COMPOSITIONS AND METHODS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/147,592A
FILING DATE: 05-NOV-1993
CLASSIPICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 869.6; DB 3;
Pred. No. 4.5e-213;
0; Mismatches 20;
                                                                                                                                                                                                    GENERAL INFORMATION:
APPLICANT: Relatine, Terry
APPLICANT: Relatine, Terry
APPLICANT: Relatine, Terry
APPLICANT: Yasuda, Kazuki
TITLE OF INVENTION: Opioid Receptor Genes,
ITLLE OF INVENTION: Compositions and Methods
NUMBER OF SEQUENCES: 43
CORRESPONDENCE ADDRESS:
ADDRESSEE: Arnold, White & Durkee
STREFT: P.O. Box 4433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCATION: 169, 181, 265, 269; IDENTIFICATION METHOD: Xaa = unknown US-08-147-592A-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY: United States of America ZIP: 72210
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: 05-NOV-1993
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/100,694
FILING DATE: 30-JUL-1993
CLASSIFICATION: 435
APPLICATION NUMBER: 08/066,296
FILING DATE: 20-MAY-1993
CLASSIFICATION: 435
ATTOMBEY AGENT INFORMATION:
ANALYSIE ATTOMBER: 08/066,296
FILING DATE: 20-MAY-1993
CLASSIFICATION: 435
ATTOMBEY AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: N
LOCATION: 607-608, 642-643, 896,
IDENTIFICATION METHOD: N = A, C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                              RESULT 11
US-08-147-592A-11
'Sequence 11, Application US/08147592A
; Patent No. 6096513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Wilson, Mark B.
REGISTRATION NUMBER: 37,259
REPERDICAPOCKET NUMBER: ARCI
TELECOMMUNICATION INFORMATION:
TELEPHONE: (512) 418-3000
TELEFAX: (512) 474-7577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEX: N/A
INFORMATION FOR SEQ ID NO: 11:
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                           TGACTAGTCGTGGA.1154
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LENGTH: 1000 base pairs
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Best Local Similarity 97.5
Matches 891; Conservative
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STRANDEDNESS: single
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LOCATION: 102..986
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MOLECULE TYPE:
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                                                         267 ATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTGTGC
                                                                                                                                                      327 CACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCATGTCTGC
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Sequence 1, Application US/08430286A

Patent No. 6225080

GENERAL INFORMATION:

APPLICANT: Uhl, George R.

APPLICANT: Explex. C. Mark

APPLICANT: Wang, Jai.Bel

TITLE OF INVENTION: Mu-Subtype Opioid Receptor

NUMBER OF SEQUENCES: 14

CORRESPONDENCE ADDRESS:

ADDRESSEE: Darby & Darby PC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE: Darby & Darby POTRESTE: 805 Third Avenue CITY: New York STATE: New York COUNTRY: US ZIP: 10022 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk
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                                                                                                                                                                                                      COMPUTER: IEBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS/ASCII
SOCTAME: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/292,694A
FILING DATE: August 19, 1994
CLASSIFICATION DATA:
APPLICATION NUMBER: 08/066,296
FILING DATE: O May 1993
CLASSIFICATION NUMBER: 08/100,694
FILING DATE: 30 May 1993
CLASSIFICATION: 435
APPLICATION NUMBER: 08/100,694
FILING DATE: 5 No. 6319686ember 1993
CLASSIFICATION: 435
APPLICATION NUMBER: PCT/US94/05747
FILING DATE: 20 May 1994
CLASSIFICATION: 435
APPLICATION NUMBER: PCT/US94/05747
FILING DATE: 20 May 1994
CLASSIFICATION: 435
ATTORNEY/AGRET INFORMATION:
NAME: MARK B. WILSON
REGISTRATION NUMBER: 37,259
REGISTRATION NUMBER: ARCD:140/WIM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity 97.5%; Pred. No. 4.5e-213; Pred. Conservative 0; Mismatches 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOCATION: 607-608, 642-643, 896, 906
IDENTIFICATION METHOD: N = A, C, G or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; LOCATION: 169, 181, 265, 269
; IDENTIFICATION METHOD: Xaa = unknown
US-08-292-694A-11
NUMBER OF SEQUENCES: 46
CORRESPONDENCE ADDRESS:
ADDRESSE: ATNOIG, White & Durkee
STREET: P. O. Box 4433
CITY: Houston
STATE: Texas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION:
TELEPHONE: (512) 418-3000
TELEFAX: (713) 789-2679
TELEX: 79-0924
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 1000 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: linear
MOLECULE TYPE: DNA (genomic)
                                                                                                                                                 ZIP: 77210
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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102..986
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NAME/KEY: Xaa
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Best Local Simil
Matches 891, C
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LOCATION:
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CCTTAGGCTATACCAACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAAATT 1009
                                                                                                                                                                                                                                                                                                                                                                                                                           CITIGGITACACGAACAGCTGCCTGAATCCAGTTCTTTACGCCTTCCTGGATGAAAACT 1057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCAAGCGGTGTTTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGCGGCAGAGCA 1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1058 TCAAGCGATGCTTCAGAGATTCTGCATCCCAACCTCGTCCACGATCGAACAGCAAAACT 1117
758 TGCCGGTCCTCATCATCACTGTGTTACGGCCTGATGATCTTACGACTCAAGAGCGTTC 817
                                                                                                                                                                              TGGTGGTGGTGGCAGTCTTCGTCGTCTGCTGGACTCCCATTCACATATTCATCTGGTGG 889
                                                                                                                                                                                                                                                                                    890 AGGCTCTGGGGAGCACCTCCCACAGCACAGCTGCTCTCTCCAGCTATTACTTCTGCATCG
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                                                                                                                                                                                                                     878 IGGIGGICGIGGCIGIATITATGGICTGCIGGACCCCCAICCACCITAGGICATCATCA
                                                                            GGCTCCTTTCTGGCTCCCGAGAGAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCC
                                                                                                                           Mu Opioid Receptors: Compostions and Methods
17
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APPLICATION NUMBER: US/08/889,108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INDA005\WIM
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P. O. Box 4433
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/305,518
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ATTORNEY/AGENT INFORMATION:
NAME: Wilson, Mark B.
REGISTRATION NUMBER: 37,259
REPRENCE/DOCKET NUMBER: INDA
TELECOMMUNICATION INFORMATION:
TELEPHONE: 512-418-3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 1, Application US/08889108
Patent No. 6103492
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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TITLE OF INVENTION: Mu (
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
ADDRESSEE: ARNOLd, Wh:
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STRANDEDNESS: single
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214..1410
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CITY: Houston
STATE: TX
COUNTRY: USA
ZIP: 77210-4433
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US-08-889-108-1
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  COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/430,286A
FILING DATE: 28-APR-1995
CLASSIFICATION: 536
ATTONEY/AGENT INPORMATION:
NAME: RObinson, Joseph R.
REGISTRATION NUMBER: 33,448
REGISTRATION NUMBER: 33,448
REBERENCE/DOCKET NUMBER: 0646/1A843-US5
TELECOMMULCATION INPORMATION:
TELECOMMULCATION INPORMATION:
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Pred. No. 2.2e-104;
0; Mismatches 321;
                                                                                                                                                                                                                                                                                                                               TELEFAX: 212-53-6237
TELEFAX: 21687
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 2135 base pairs
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Best Local Similarity 66.9%;
Matches 668; Conservative (
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IMMEDIATE SOURCE:
CLONE: mu receptor cDNA
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STRANDEDNESS: single
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ADDRESSEE: Arnold, White & Durkee
STREET: P. O. Box 4433
                                                                                                                                                                                                                                                                                                                                                                                     NAME: Wilson, Mark B.
REGISTRATION NUMBER: 37,259
REFERENCE/DOCKET NUMBER: INDA(TELECOMMUNICATION INFORMATION: TELEPHONE: 512-418-3000
INFORMATION FOR SEQ ID NO: 3: SEQUENCE CHARACTERISTICS:
LENGTH: 1618 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 66.8%;
Matches 667; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: linear MOLECULE TYPE: DNA (cDNA)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDS
339..1235
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US-08-889-108-3
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 RESULT 15
US-08-889-108-3
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 Length 1618;
                           Indels
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Score 444.8; DB 3;
Pred. No. 4.9e-104;
0; Mismatches 322;
38.5%;
66.8%;
                         Matches 667; Conservative
            Similarity
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Query Match
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Sequence 3, Application US/0889108
Patent No. 6103492
GENERAL INFORMATION:
APPLICANT: Yu, Lei
TITLE OF INVENTION:
NUMBER OF SEQUENCES: 17
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6
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                                                                                                                                                                                                                               CITY: HOURTON
STATE: TX
COUNTRY: USA
ZIP: 77210-4433
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: Floppy disk
COMPUTER: Floppy Misk
COMPUTER: PROMPTING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATONII Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 444.8; DB 3;
Pred. No. 4.9e-104;
0; Mismatches 322;
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APPLICATION NUMBER: US/08/889,108
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/305,518
FILING DATE:
ATTORNEY/AGENT INFORMATION:
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1001 ecarecraricesecriccaaadaaaadaaaadaaarcrececaacaacaacaareeree 1060
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650 TAGATTACTACAACATGTTCACCAGCATATTCACCCTCTGCACCATGAGCGTGGACCGCT 709
                                                           470 ACATTGCCGTGTGCCACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGA 529
                                                                                                                                                                   530 TCATCAATATCTGCATCTGGCTGCTGTCGTCATCTGTTGGCATCTCTGCAATAGTCCTTG 589
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                                                                                                                                                                                                                                                                                                                            830 CAACCACAAAATACAGGGGAGGGTC----CATAGATTGCACCCTCACGTTCTCCCACC 883
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                                                                                                     710 ACATTGCTGTCTGCCACCAGTCAAAGCCCTGGATTTCCGTACCCCCCGAAATGCCAAAA
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Search completed: April 6, 2005, 12:39:44 Job time : 218 secs

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April 6, 2005, 12:28:42 ; Search time 766.333 Seconds (without alignments) 9125.590 Million cell updates/sec
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11: /cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*

12: /cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*

12: /cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*

13: /cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*

14: /cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*

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16: /cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*

16: /cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*

16: /cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*

17: /cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*

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10: /cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*

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17: /cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*
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GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5615251 seqs, 3030001701 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                               OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IDENTITY NUC
Gapop 10.0 , Gapext 1.0
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Maximum DB seq length: 2000000000
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1154
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Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence:
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                                                                                                                                                                                                                                        Run on:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

| | Description | Sequence 4, Appli | Sequence 1, Appli | Sequence 45, Appl | Sequence 559, App | Sequence 2, Appli | Seguence 3, Appli | , | Sequence 6, Appli | 7, 1 | Sequence 147, App | Sequence 19, Appl |
|-----------|--------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----------------|-------------------|-----------------|--------------------|-------------------|
| SUMMARIES | ID | US-09-904-584-4 | US-09-904-584-1 | US-10-278-698-45 | US-10-278-698-559 | US-09-904-584-2 | US-09-904-584-3 | US-09-904-584-5 | US-09-904-584-6 | US-09-904-584-7 | US-10-225-567A-147 | US-10-345-680-19 |
| | | 11 | 11 | 19 | 19 | 11 | 11 | 11 | 11 | 11 | 15 | 15 |
| | Query Match Length DB | 1154 | 1154 | 1602 | 1602 | 1154 | 1154 | 1154 | 1154 | 1154 | 1182 | 1182 |
| æ | Query Match | 100.0 | 6.66 | 99.9 | 6.66 | 99.7 | 99.7 | 99.7 | 99.7 | 7.66 | 99.2 | 99.5 |
| | Score | 1154 | 1152.4 | 1152.4 | 1152.4 | 1150.8 | 1150.8 | 1150.8 | 1150.8 | 1150.8 | 1144.4 | 1144.4 |
| | Result No. | | 7 | m | 4 | S | 9 | 7 | 80 | 0 | 10 | 11 |

| ιn . | Sequence 185, App Sequence 1379, Ap Sequence 13, Appl Sequence 11, Appl Sequence 11, Appl Sequence 13, Appl |
|---|--|
| US-10-305-720-1417 US-10-283-975A-80 US-10-318-661-1 US-10-318-661-3 US-10-345-680-21 US-09-826-509-542 US-10-318-661-7 US-10-318-661-7 US-10-318-661-7 US-10-318-661-15 US-10-318-661-15 US-10-318-661-15 US-10-318-661-15 US-10-318-661-15 US-10-318-661-15 US-10-318-661-15 US-10-318-661-15 US-10-318-661-15 US-10-318-661-15 US-10-318-661-15 US-10-318-661-15 US-10-318-61-17 US-10-027-632-188122 US-10-027-632-188122 US-10-038-31-16 US-10-080-917-0 US-10-080-917-10 US-10-080-917-12 US-10-080-917-12 US-10-080-917-12 US-09-881-839-15 US-09-881-839-15 | 10-225-56/A-1 -10-305-720-13 -10-477-714-33 -09-935-061-11 -10-080-917-13 |
| 71111111111111111111111111111111111111 | 110 110 118 118 |
| 1182 1183 1184 1184 1184 1184 1184 1187 1187 1187 | 2162 2162 2279 1176 1176 |
| 00000000000000000000000000000000000000 | 337.5 37.5 37.5 4.7 4.4 |
| 11111111111111111111111111111111111111 | 999999 |
| 0000 0000 0000000000000000000000000000 | 1 4 4 4 4 2 4 5 5 6 6 7 6 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 |

ALIGNMENTS

| n US/09904584 0097704A1 Y Jeanne Vadim (Next Steven Alleles of the Human Kappa Opioid Receptor Gene, Diagnostic Methods Using Said Allelles, and Receptor Gene, Diagnostic Methods Using Said Allelles, and Therenos of Treatment Based Thereon -285N -2001-07-13 BER: 60/218,300 00-07-14 Windows Version 4.0 | DB 11; Length 1154; 0; Indels 0; Gaps 0; | CGGGCCCTACCTGCGCCCGAGCGCC 60 | GCTGGGCCGAGCCCGACAGCAACGGC 120 |
|---|---|---|---|
| RESULT 1 US-09-304-584-4 US-09-304-584-4 Sequence 4, Application US/09904584 Publication No. US20040097704A1 SEGRERAL INFORMATION: APPLICANT: Yuferov, Vadim APPLICANT: LeForge, Karl Steven TITLE OF INVENTION: Alleles of the Human Kappa Opioid TITLE OF INVENTION: Receptor Gene, Diagnostic Methods TITLE OF INVENTION: Methods of Treatment Based Thereon FILE REFERENCE: 600-1-285M CURRENT APPLICATION NUMBER: US/09/904,584 CURRENT APPLICATION NUMBER: 60/218,300 PRIOR APPLICATION NUMBER: 60/218,300 PRIOR APPLICATION NUMBER: 60/218,300 SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 4 LENGTH: 1154 LENGTH: 1154 CYPE: DNA 1 | Query Match 100.0%; Score 1154; Best Local Similarity 100.0%; Pred. No. 0; Matches 1154; Conservative 0; Mismatches | oy 1 ATGACTCCCCGATCCTCCGCGGGGGGGGCCCTACCTGCGCCCCGAGCGCC | Oy 61 TGCCTGCCCCCAACAGCAGCGCCTGGTTTCCCGGCTGGGCCGAGCCCGACAGCAACGGC 120 |

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TECCTECCCCCAACAGCAGGGCCTGGTTTCCCGGCTGGGCCGAGCCCGACAGGAACGGC 120

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Sequence 1, Application US/09904584

publication No. US20040097704A1

GENERAL INFORMATION:

APPLICANT: Vicek, Mary Jeanne

APPLICANT: Vicek, Mary Jeanne

APPLICANT: LaForge, Karl Steven

TITLE OF INVENTION: Receptor Gene, Diagnostic Methods Using Said Allelles, and

TITLE OF INVENTION: Receptor Gene, Diagnostic Methods Using Said Allelles, and

TITLE OF INVENTION: Methods of Treatment Based Thereon

FILE REFERENCE: 600-1-285N

CURRENT APPLICATION UMBER: US/09/904,584

CURRENT FILING DATE: 2000-07-13

PRIOR FILING DATE: 2000-07-13

PRIOR FILING DATE: 2000-07-14

NUMBER OF SEQ ID NOS: 7

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 1

LENGTH: 1154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTTCCATTGATTACTAC 420
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGCATCTGGCTGCTGTCGTCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA
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| Qy 661 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC 720 Db 661 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCTC 720 Qy 721 ATCATCATCGTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCT 780 Db 721 ATCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCT 780 Qy 781 GGCTCCCGGAAGAAAGATCGCAAACGTGCGTAGGATCACCAGACTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGG | 841 GCAGTCTTCGTCTGCTCGACTTCCCATTCACATATTCATCCTGGTGGAGGTTCTGGGG | 961 ACCAACAGTAGCCTGAATCCCATTCTTACGCCTTTCTTGATGAAAATTTCAAGCGGTGT | 1081 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGATG | US-10-278-698-45 Sequence 44, Application US/10278698 Sequence 44, Application US/10278698 Sequence 44, Application No. US-20050037344A1 Sequence 44, Application No. US-20050037344A1 GENERAL INFORMATION: APPLICANT: PathoArizey GmbH APPLICANT: PathoArizey GmbH APPLICANT: Stubinmiller, Burno APPLICANT: Stubinmiller, Burno APPLICANT: Stubinmiller, Burno APPLICANT: Stubinmiller, Burno APPLICANT: Stubinmiller, Burno APPLICANT: Stubinmiller, Burno APPLICANT: SO007708 CURRENT FILMS DATE: 2000710-23 CURRENT FILMS DATE: 2000710-23 SEQ ID NO 45 SEQ ID NO 436 SEQ ID NO 45 SEQ ID NO 436 |

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APPLICANT: Yuferov, Vadim
APPLICANT: Yuferov, Vadim
APPLICANT: Yuferov, Vadim
APPLICANT: Yuferov, Vadim
APPLICANT: Laforge, Karl Steven
APPLICANT: Alleles of the Human Kappa Opioid
TITLE OF INVENTION: Receptor Gene, Diagnostic Methods Using Said Allelles, TITLE OF INVENTION: Methods of Treatment Based Thereon
TITLE OF INVENTION: Methods of Treatment Based Thereon
TITLE OF INVENTION: Methods of Treatment Based Thereon
TITLE OF INVENTION NUMBER: US/09/904,584
CURRENT FILING DATE: 2001-07-13
NUMBER OF SEQ ID NOS: 7
SOFTWARE: FastSEQ for Windows Version 4.0
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Pred. No. 0;
0; Mismatches
                                                     APPLICANT: PathoArray GmbH
APPLICANT: Stuhlmuller, Bruno
APPLICANT: Stuhlmuller, Bruno
APPLICANT: Haupl, Thomas
TITE OF INVENTION: Nucleic Acid Array
FILE REFERENCE: 030027US
CURRENT APPLICATION NUMBER: US/10/278,698
CURRENT FILING DATE: 2002-10-23
NUMBER OF SEQ ID NOS: 1050
SOFTWARE: Patentin version 3.2
SEQ ID NO 559
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. 98.00
Publication No. US20050037344A1
GENERAL INFORMATION:
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Best Local Similarity 99.9
Matches 1153; Conservative
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; ORGANISM: Homo sapiens
US-10-278-698-559
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| ; TITLE OF INVENTION: Alleles of the Human Kappa Opioid ; TITLE OF INVENTION: Receptor Gene, Diagnostic Methods Using Said Allelles, ; TITLE OF INVENTION: Receptor Gene, Diagnostic Methods Using Said Allelles, ; TITLE OF INVENTION: Methods of Treatment Based Thereon ; FILE REFERENCE: 600-1-285N ; CURRENT APPLICATION NUMBER: US/09/904,584 ; CURRENT FILING DATE: 2000-07-14 ; NUMBER OF SEQ ID NOS: 7 ; SOFTWARE: FastSEQ for Windows Version 4.0 ; SEQ ID NO 3 ; LENGTH: 1154 ; TYPE: DNA ; ORGANISM: homo sapiens US-09-904-584-3 | Query Match 99.7%; Score 1150.8; DB 11; Length 1154; Best Local Similarity 99.8%; Pred. No. 0; Matches 1152; Conservative 0; Mismatches 2; Indels 0; Gaps 0; | QY 1 ATGGACTCCCCGATCTTCCGCGGGGAGCCGGGCCCTACCTGCGCCCCGAGCGCC 60 | Qy 61 TGCCTGCCCCCAACAGGAGGCCTGGTTTCCCGGCTGGGCCGAGCCGAACGGC 120 | Qy 121 AGGCCGGGTCGGAGGACGCGCACTGGAGCCCGGCACATCTCCCCGGCATCTCCGGTC 180 | QY 181 ATCATCACGGCGTCTACTCCGTAGTGTTCGTCGGGCGTTGGTGGGCAACTCGCTGGTC 240 Db 181 ATCATCACGGCGTCTACTCCGTAGTGTTCGTCGTGGGCTTGGTGGGCAACTCGCTGGTC 240 | Cy 241 AIGTICGTGATCATCCGATACACAAAGATGAAGACAGCAACCAAC | Qy 301 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG 360 | Qy 361 ATGALTTCTGGCCTTTTGGGATGTGCTGTGCAAGATAGTAATTTCCATTGATTACTAC 420 | Qy 421 AACATGTTCACCAGCATCTTCACCTTGACCATGAGGGTGGACCGCTACATTGCCGTG 480 | QY 481 TGCCACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATC 540 | Qy 541 TGCATCTGGCTGCTCATCTGTGCATCTCTGCAATAGTCCTTGGAGGCACCAAA 600 Db 541 TGCATCTGGTGCTGTCATCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA 600 | Qy 601 GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC 660 | 0y 661 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC |
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| QY 241 ATGTTCGTGATCATCCGATACACAAGATGAAGACAGCAACCTATTTAAC 300 Db 241 ATGTTCGTGATCATCCGATACACAAGATGAAGACAGCAACATTTACATATTTAAC 300 QY 301 CTGGCTTTGGCAGATGCTTACATACAACCATGCCCTTCACAGATTACATTTAACTTG 360 Db 301 CTGGCTTTGGCAGATGCTTAACTACAACCATGCCCTTTCACAGAGTACGGTCTACTTG 360 QY 361 ATGAATTCCTGGCCTTTTGGGATGCTGTGCAAGATAGTAATTTCCATTGATACTAC 420 Db 361 ATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTTCCATTGATTACTAC 420 CY 421 AAGAATTCCTGGCCTTTTGGGGATGTGCTGTGGAAGATAGTAATTTCCATTGATTACTAC 420 CY 421 AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGACGCTACATTGCCGTG 480 CY 421 AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACGCTACATTGCCGTG 480 CA 421 AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACGCTACATTGCCGTG 480 | OY 481 TGCCACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCATCAATATC 540 DD 481 TGCCACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCATCATATC 540 | OY 541 IGCATCTGGCTGCTGTCGTCTGTTGGCATCTCTGGAATAGTCCTTGGGGCACCAAA 600 | OY 601 GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC 660 | Qy 661 TGGTGGGACCTCTTCATGAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC 720 bb 661 TGGTGGGACCTCTTCATGAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCTC 720 | dy 721 ATCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCTTTCT 780 Db 721 ATCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCT 780 | dy 781 GGCTCCCGAGAGAAAAATCGCAACCTGGTAGGATCACCAGACTGGTCCTGGTGGTG 840 Db 781 GGCTCCCGAGAGAAAAAATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGTGGTG 840 | OY 841 GCAGTCTTCGTCGTCCTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG 900 | Qy 901 AGCACCTCCCACAGCAGCTGCTCTCTCCAGCTATTACTTCTGCATCGCCTTAGGCTAT 960 | QY 961 ACCAACAGTAGCCTGAATCCCATTCTCTAGATGAAATTTCAAGGGTGT 1020 DS 961 ACCAACAGTAGCTGAATCCCATTCTTCTTGATGAAAACTTCAAGGGTGT 1020 | dy 1021 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGACGGGCAGAGCACTAGCAGAGTC 1080 bb 1021 TTCCGGGACTTTCCACTGAAGATGAGGAGCGGGCAGAGCACTAGCAGAGTC 1080 | Oy 1081 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGACATGGATGG | Oy 1141 TGACTAGTCGTCGA 1154 Db 1141 TGACTAGTCGTCGA 1154 | RESULT 6 US-09-904-584-3 US-09-904-584-3 ; Sequence 3, Application US/09904584 ; Publication No. US20040097704A1 ; GENERAL INFORMATION: ; APPLICANT: Kreek, Mary Jeanne ; APPLICANT: Yuferov, Vadim ; APPLICANT: LaForge, Karl Steven |

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| Db 241 ATGTTCGTGATCATCCGATACACAAAGATGAAGACGGCAACCAAC | Oy 301 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG 360 | Oy 361 ATGAATTCCTGGCCTTTTGGGGATGTGCTGCGCAGATAGTAATTTCCATTGATTACTAC 420 | Oy 421 AACANGTICACCAGGATCTTCACCATGACGATGAGGGTGGACGGCTACATTGCCGTG 480 bb 421 AACANGTICACCAGGATCTTCACCTTGACCATGAGGGTGGACGGCTACATTGCCGTG 480 | QY 481 TGCCACCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCATCATGTC 540 bb 481 TGCCACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCATCATATC 540 | Qy 541 IGCALCTGGCTGTCTCATCTGTTGGCATCTCTGCAAIAGTCCTTGGAGGCACCAAA 600 | OY 601 GICAGGGAAGACGICGAIGTCAITGAGIGCTCCTIGCAGAIGCAGAGAIGACTACTCC 660 | Qy 661 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC 720 | QY 721 ATGATCATCGTGCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCT 780 | OY 781 GGCTCCCGAGAGAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTG 840 | QY 841 GCAGTCTTCGTCGTCGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG 900 Db 841 GCAGTCTTCGTCGTGGACTCCCATTCACATATTCATCTGGTGGAGGCTCTGGGG 900 | QY 901 AGCACTCCCACAGCACAGCTGCTCTCTCCAGCTATTACTTCTGCATCGCCTTAGGCTAT 960 | QY 961 ACCAACAGTAGCCTGAATCCCATTCTCTACACGCTTTCTTGATGAAATTTCAAGCGGTGT 1020 DD 961 ACCAACAGTAGCCTGAATCCCATTCTTCTTGATGAAAACTTCAAGCGGTGT 1020 | OY 1021 TTCCGGGACTTCTGCTTTCCACTGAAGATGGAGAGGGCGGCAGAGCACTAGCAGGTC 1080 | OY 1081 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGACATCGATGGATG | Qy 1141 TGACTAGTCCTCGA 1154 | | ; GENERAL INFORMATION: 02201007; June 1; GENERAL INFORMATION: 3 APPLICANT: Yuferov, Vadim ; APPLICANT: LaForge, Karl Steven ; APPLICANT: LaForge, Karl Steven ; | ; TITLE OF INVENTION: Alleles of the Human Kappa Opiolo |
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| | OY 841 GCAGTCTTCGTCGTCTGCACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG 900 | QY 901 AGCACCTCCCACAGCACACACTCTCTCCAGCTATTACTTCTGCATCGCCTTAGGCTAT 960 | QY 961 ACCAACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGAAAATTTCAAGCGGTGT 1020 | OY 1021 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGGGCGGGAGGGCACTAGCAGAGTC 1080 | QY 1081 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAACCAGTA 1140 | Qy 1141 TGACTAGTCGTGGA 1154 Db 1141 TGACTAGTCGTGGA 1154 | RESULT 7 US-09-904-584-5 | ; Sequence 5, Application US/09904584 ; Publication No. US20040097704A1 ; GENERAL INFORMATION: ; APPLICANT: Kreek, Mary Jeanne | ; APPLICANT: Yuferov, Vadim ; APPLICANT: LaForge, Karl Steven ; TITLE OF INVENTION: Alleles of the Human Kappa Opioid ; TITLE OF INVENTION: Receptor Gene, Diagnostic Methods Using Said Allelles, and | ; TITLE OF INVENTION: Methods of Treatment Based Thereon; FILE REFERENCE: 600-1-285N ; CURRENT APPLICATION NUMBER: US/09/904,584 ; CURRENT FILING DATE: 2001-07-13 | ; PRIOR APPLICATION NUMBER: 60/218,300 ; PRIOR FILING DATE: 2000-07-14 ; NUMBER OF SEQ ID NOS: 7 ; SOFTWARE: PastSEQ for Windows Version 4.0 | ; SEQ ID NO 5 ; LENGTH: 1154 ; TYPE: DNA ; TYPE: DNA ; ORGANISM: homo sapiens | 7%; Score 1150.8; DB 11; Length 1154; 8%; Pred, No. 0; | Matches 1152; Conservative 0; Mismatches 2; Indels 0; Gaps 1 AlgacTCCCCGATCCAGATCTTCCGCGGGGAGCCGGCCCTACCTGCGCCCCGAGCGCC | DB | Qy 121 AGCGCCGGCTCGGAGGAGCGCAGCTGGAGCCCGCGCACATCTCCCCGGCCATCCCGGTC 180 bb 121 AGCGCCGGCTCGGAGGAGCGCGAGCCCGCGCACATCTCCCCGGCCATCCCGGTC 180 | 181 ATCATCACGGGGTCTACTCCGTAGTGTTTCGTCGTGGGCTTGGTGGCAACTCGCTGGTC | Qy 241 ATGTTCGTGATCCGGTACACAAAGATGAAGACAGCAACCAAC |

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APPLICANT: Vaferov, Vadim
APPLICANT: Areforde, Karl Steven
APPLICANT: LaForge, Karl Steven
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CURRENT APPLICATION UNBER: US/09/904,584
CURRENT APPLICATION NUMBER: 60/218,300
PRIOR FILING DATE: 2000-07-14
NUMBER OF SEQ ID NOS: 7
SOFTWARE: FRAESEQ for Windows Version 4.0
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TITLE OF INVENTION: Receptor Gene, Diagnostic Methods Using Said Allelles, and TITLE OF INVENTION: Methods of Treatment Based Thereon FILE REPERENCE: 600-1-285N
CURRENT APPLICATION NUMBER: US/09/904,584
CURRENT FILING DATE: 2001-07-13
PRIOR APPLICATION NUMBER: 60/218,300
PRIOR PILING DATE: 2000-07-14
NUMBER OF SEC ID NOS: 7
SOFTWARE: FREUSEQ for Windows Version 4.0
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Pred. No. 0;
0; Mismatches
FILE REFERENCE: 1920-4-4
CURRENT APPLICATION NUMBER: US/10/225, 5
CURRENT PILING DATE: 2001-12-19
PRIOR APPLICATION NUMBER: 60/257,144
PRIOR FILING DATE: 2000-12-19
NUMBER: OF SEQ ID NOS: 2292
SOFTWARE: PATENT VERSION 3.1
                                                                                                                                                                                                      Query Match
Best Local Similarity 99.5%;
Matches 1148; Conservative
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CRGANISM: HOMO
US-10-225-567A-147
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Publication No. US20030113798A1

GENERAL INFORMATION:
APPLICANT: LifeSpan Biosciences
APPLICANT: Brown, Joseph P.
APPLICANT: Burner, Glenna C.
APPLICANT: Roush, Christine L.
TITLE OF INVENTION: ANTIGENIC PEPTIDES AND ANTIBODIES FOR G PROTEIN-COUPLED RECEPTORS
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| | | 901 AGCACCTCCCACAGCACACGCTCTCTCCAGCTATTACTTCTGCATCGCCTTAGGCT | 961 ACCAACAGTAGCCTGAATCCCAITCTCTACGCCTTTCTTGATGAAAATTTCAAGCGG | 1021 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGCGGCAGAGCACTAGCAGAC | 8 <u>—8</u> | 1141 TGACTAGTCGTGGA 1154 | RESULT 11 US-10-35-680-19 . Semisore 19 Aprolication HS/10146680 | SECTION NO. US20030148394A1 LINFORMATION: Millennium Pharmaceuticals, Inc. | 4.0 | , E | A APPLICATION NUMBER: US 60/349,511 R FILING DATE: 2002-01-18 A APPLICATION NUMBER: US 60/360,500 | FILING DATE: 2002-02-28 **PILING DATE: 2002-03-15 **PILING DATE: 2002-03-15 **APPLICATION WHORER: US 60/374,063 | A PELLICATION NUMBER: US 60/403,468 FILING DATE: 2002-08-14 A PRILICATION NUMBER: US 60/414,262 | <pre>c Filing DATE: 2002-09-2/ APPLICATION NUMBER: US 60/419,986 R FILING DATE: 2002-10-21 A PPLICATION NUMBER: US 60/423,809</pre> | RILING DATE: 2002-11-05 A APPLICATION NUMBER: US 60/429,797 R FILING DATE: 2002-11-26 | NUMBARE OF SEQ ID NOS: 56 SOTTWARE FastSEQ for Windows Version 4.0 EQ ID NO 19 LENGTH: 1182 | TYPE: DNA ORGANISM: Homo Sapiens FEATURE: | | ; LOCATION: (14)(1156) US-10-345-680-19 |

us-09-904-584-4.rnpb

| Db 554 TGCATCTGGCTGTCGTCATCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA 613 | 674 IGGIGGGACCTCTTCATGAGATCTGCGTCTTCATCTTTGCCTTTGCCTGTGATCCTGTGTCTCTCTTTTGCTTTTGTTTTTGTTTTTGTTTTTGTTTTTGTTTTTGTTTTT | Db 794 GGCTCCCGAGAGAAGATCGCAAGGATCACGAGATGGTCCTGGTGGTGGTGGTGGTG 853 | 961 ACCACACTACATCCCATTCTCTACGCCTTTCTTGATGAAATTTCAGCGTGT 974 ACCAACAGTAGCCTGATCTCTCTACGCCTTTCTTGATGAAATTTCAAGCGGTGT 974 TCCACACACAGTAGCCTGATCTCTCTACGCCTTTCTTGATGAAACTTCAAGCGGTGT 1021 TTCCGGGACTTCTGCTTTCCACTGAAGATGGAGGCGGCAGAGCACTAGCAAGTCT 1061 TTCCGGGACTTCTGCTTTCCACTGAAGATGGAGGCGGCAGAGCACTAGCAAGTCT 1071 TTCCGGGACTTCTGCTTTCCACTGAAGATGGAAGCGGCAGAGCACTAGCAAGTCT | IIICCACITACCTGAGGGACATCGAGGGATGAGTAGAGGGTAGAGGGTAGAGGGACATCGATGGGATGAGTGATGAGGTAATAAACCAGTAATCCTGCTGATGGGATGAGATAAACCAGTAATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAACCAGTAAATGGGATGAATAAACCAGTAAAACCAGTAAAAACCAGTAAAAAAAA | 1154 TGACTAGTCGTGGA SULT 13 | US-10-283-975A-80 ; Sequence 80, Application US/10283975A ; Publication No. US20040110792A1 ; GENERAL INFORMATION: ; APPLICANT: Ortho-Clinical Diagnostics, Inc. ; TITLE OF INVENTION: Methods For Assessing and Treating Leukemia ; FIIR REPERENCE: CDS 293 PCT | CURRENT APPLICATION NUMBER: US/10/283,975A CURRENT FILING DATE: 2002-10-30 FRIOR APPLICATION NUMBER: 60/340,938 FRIOR PILING DATE: 2001-10-30 FRIOR APPLICATION NUMBER: 60/338,997 FRIOR PILING DATE: 2001-10-30 FRIOR PILING DATE: 2001-10-30 FRIOR PILING DATE: 2001-10-30 FRIOR PILING DATE: 2001-10-30 | PRIOR FILING DATE: 2001-10-30 PRIOR APPLICATION NUMBER: 60/341,012 PRIOR FILING DATE: 2001-10-30 NUMBER OF SEQ ID NOS: 900 SOFTWARE: Patentin version 3.1 SEQ ID NO 80 TYPE: DNA | ; ORGANISM: HUMAN US-10-283-975A-80 Query Match Best Local Similarity 99.5%; Pred. No. 0; Matches 1148; Conservative 0; Mismatches 6; Indels 0; Gaps 0; |
|--|---|--|---|--|---|---|--|---|---|
| | RESULT 12 US-10-305-720-1417 US-10-305-720-1417 Sequence 1417, Application US/10305720 Publication No. US-20040010136A1 GENERAL INFORMATION: APPLICANT: Au-Young, Janice K.; Sailhamer, Jeffrey J. TITLE OF INVERTION: Composition for the Detection of Signaling Pathway Gene Expression FILE REPERENCE: PA-0002-1 CON | CURRENT APPLICATION NUMBER: US/10/305,720 CURRENT FILING DATE: 2002-11-26 PRIOR PELICATION NUMBER: 09/016,434 PRIOR FILING DATE: 1998-01-30 NUMBER OF SEQ ID NOS: 1490 SOFTWARE: PERL PROGRAM SEQ ID NO 1417 LENGTH: 1182 | ORGANISM: Homo sapiens FEATURE: NAME/KEY: misc feature OUS-10-305-720-1417 Ouery Match Ouery Match ORCANISM: Homo sapiens Ouery Match Ouery Match Orcanism: Score 1144.4; DB 17; Length 1182; | 0 5-5 | QY 61 TGCCTGCCCCAACAGCACCTGGTTTCCCGGCTGGGCCCAACCGACCAGCCACGCCGCCGACCGCCCACCGCCCACCGCCCACCGCCCCCACCGCCCCCC | 134 AGGCCGGCTCGGAGGACGCGCAGCTGGAGCCCGCGCACATCCCCCGGCCATCC 181 ATCATCACGGCGGTCTACTCCGTAGTGTTCGTCGTGGGCTAGTGGGCAACTCGC 194 ATCATCACGGCGGTCTACTCCGTAGTGTTCGTCGTGGGCCAACTCGC 195 ATCATCACGGCGGTCTACTCCGTAGTGTTCGTCGTGGGCCAACTCGC | Oy 241 ATGTTCGTGATCATCGGATACACAAGATGAAGACGACCAACGTTTACATATTAAC 300 Db 254 ATGTTCGTGATCATCCGATACACAAGGTGAGCACCAACGATTTACATATTAAC 313 Oy 301 CTGCGTTTGGCAATGCTTAGTTACTACAACGTTTCAAGATACGGTCTACTG 360 Db 314 CTGCCTTTGGCAATGCTTTAGTTACTACAACCATGCGTTCAAGATACTACTTACT | Qy 361 ATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATATTCCATTGATTACTAC 420 Db 374 ATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTTCCATTGATTACTAC 433 Qy 421 AACATGTTCACCAGCATCTTCACCATGACATGACGTGGACGCTGCATGGCGTG 480 Db 434 AACATGTTCACCAGCATCTTCACCATGACATGAGGGGGGGACGCTACATTGCCGTG 493 | OY 481 TGCCACCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATC 540 |

| | on US/1031 30167476A1 Bruce R. Selective Expression C049CIP2 NUMBER: US 0999-12-20 MBER: US 0997-03-26 Expression C049CIP2 NUMBER: US 0999-12-20 MBER: US 099-12-20 MBER: US 099-13-26 MBER: US 099-13-26 MBER: US 099-13-26 | Best Local Similarity 99.3%; Pred. No. 0; |
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| 1 ATGGACTCCCCGATCCTCCGCGGGGAGCCGGGCCCTACCTGGGCCCCGGAGCGCC 60 | CCCGGTC CCCGGTC CCCGGTC CCCGGTC CCCGGTC CTTTTAAC CTTTTAAC CTACTTG CTAC | 541 TGCATCTGGCTGCTGTCATCTGTTGGCATCTGCAATAGTCCTTGGAGGCACCAAA 613 554 TGCATCTGGCTGCTGTCTCTTGTTGGCATCTGTAATGTCCTTGGAGGCACCAAA 613 601 GTCAGGGAAGACGTCGATCTTGTTGGCATCTCTGCAATGATCCTTGCAGTGATCACTCC 660 614 GTCAGGGAAGACGTCGATCATTGAGTGCTCCTTGCAGTTCCCAGATGATCACTCC 673 661 TGGTGGGACTCTTCATGAGTGCTCTTTGAGTTCCTTGCAGTTCCCAGATGATCACTCC 673 661 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATTGCCTTCGTGATCCTTGCTTCT 720 611 GTCAGGGAAGACGTCGATCATTAGATCTCTCTTGCTTTGCCTTCGTGATCCTTCT 720 612 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATTGCCTTCGTGATCCCTGTCCTC 723 721 ATCATCATCGTCTTCATGAAGATCTGCGTCTTCATTGCCTTCGTGATCCTTCT 793 722 ATCATCATCGTCTTCATGAAGATCTCGGTCTTCATCAGAGCGTCCTTTCT 793 723 ATCATCATCGTCTTCATGAAGATCTCCTGCTGTCTCTCAGAGCGTCCTTTCT 793 724 GGCTCCCGAGAGAAAGATCGCAACTCTCGTGATCCCTGGTGGTCGTGGTGGTGGTGGTGGTGGTGGTGGTGG |

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1013 GCACCTCCCACAGCACAGCTGCTCTCCAGCTATTACTTCTGCATCGCCTTAGGCTATA 1072
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 DB 16; Length 1284;
Score 1136.2;
Pred. No. 0;
                             0; Mismatches
98.5%;
Query Match
Best Local Similarity 99.7
Matches 1138; Conservative
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TITLE OF INVENTION: Selective Target Cell Activation By
TITLE OF INVENTION: Expression of A G Protein-Coupled Receptor Activated
TITLE OF INVENTION: Expression of A G Protein-Coupled Receptor Activated
FILE REFERENCE: UCAL-049CIP2
CURRENT APPLICATION NUMBER: US/10/318,661
CURRENT FILING DATE: 1999-12-20
PRIOR FILING DATE: 1999-12-20
PRIOR APPLICATION NUMBER: US/997/05334
PRIOR FILING DATE: 1999-12-20
PRIOR FILING DATE: 1999-12-20
PRIOR FILING DATE: 1996-03-26
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTHER INFORMATION: modified KOR US-10-318-661-3
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Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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| - | 805.2 | 69.8 | 895 | 9 | CB565888 | CB565888 AC | AGENCOURT |
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| 7 | 418.4 | 36.3 | 4022 | m | AK043873 | AK043873 Mt | Mus muscu |
| æ | | 31.7 | 2919 | m | AK038620 | AK038620 Mt | Mus muscu |
| σ | | 31.7 | 2959 | ٣ | AK079529 | AK079529 Mt | Mus muscu |
| 2 | 350.4 | 30.4 | 879 | σ | AY410745 | AY410745 Hc | Homo sapi |
| 11 | 334 | 28.9 | 2940 | m | AK044178 | AK044178 Mt | Mus muscu |
| 12 | 325.8 | 28.2 | 2974 | m | AK043275 | AK043275 Mt | Mus muscu |
| 13 | 325.4 | 28.2 | 3101 | m | AK031926 | AK031926 Mt | Mus muscu |
| 14 | 324.2 | 28.1 | 879 | თ | AY410747 | _ | Mus muscu |
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| 16 | | 24.1 | 775 | Ŋ | BX874804 | BX874804 B | BX874804 |
| 17 | 274.2 | 23.8 | 787 | 7 | CN439929 | CN439929 BE | BE04021A1 |
| 18 | 270.2 | 23.4 | 917 | 5 | BU219878 | BU219878 60 | 603749479 |
| 19 | 269.8 | 23.4 | 888 | ~ | BF676176 | BF676176 60 | 602084171 |
| 20 | 264.4 | 22.9 | 579 | ഹ | BP214141 | BP214141 BE | BP214141 |
| 21 | | 22.9 | 579 | ស | BP213719 | BP213719 BE | BP213719 |
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from commercially available cDNA libraries) and cloned by
the Guthrie cDNA Resource Center (www.guthrie.org/cDNA)
into pcDNA3.1. For specific information on cloning sites
(which vary by clone), please refer to the Guthrie
website, using the Guthrie ID given in the file
ftp://image.lnl.gov.image.rearrayed_plates/IRBF.preSV.dat
a. Note: this is a NIH_MGC Library."

ORIGIN

1. .895 /organism="Homo sapiens" /mol_type="mRNA" /db xref="taxon:9606" /clone="IMAGE:6519213"

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| | 30 | 219.8 | 8. | 19. | | 1006 | | AY400676 | | AY400676 | Mus muscu | |
| | 31 | N | 216 | 18. | | 784 | | BO179053 | | BO179053 | U1-M-EV0- | |
| | 32 | 215 | 8 | 18. | | 750 | | C0934661 | | C0934661 | AGENCOURT | |
| | 33 | 214 | 14 | 18. | | 429 | | BM342951 | | BM342951 | | |
| | 34 | 213 | . 7 | 18. | | 900 | | AY400674 | | AY400674 | _ | |
| | 35 | 213 | . 2 | 18. | | 048 | | CR593522 | | CR593522 | | |
| | 36 | N | 113 | 18. | | 836 | | CNS02261 | | AL177778 | | |
| | 37 | N | 113 | 18. | | 998 | | CD246184 | | CD246184 | AGENCOURT | |
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| | 4, , | 208 | ٠. | 18 | | 877 | | CNS02SC2 | | AL211691 | Tetraodon | |
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| | 42 | 206 | 4. | 17. | | 672 | | C0957761 | | C0957761 | AGENCOURT | |
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| | | | IMAG | IMAGE: 6519 | ٠٠: | 'n, | mRNA_ | A sequence | | | | |
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| ŀ | AUTHORS | က္ခ | NIH | MGC | http:/ | //mgc | , i | NIH-MGC http://mgc.nci.nih.gov/ | | | | |
| | TITLE | | Nati | onal | National Institutes | itute | 0 | f Health, | Mammalian Gene | Collection (MGC) | MGC) | |
| • | JOURNAL | ၂ | Unpu | blis | Unpublished (1999) | 1999) | | | | | | |
| Ö | COMMENT | | Cont. | act: | Contact: Robert | rt St | ran | Strausberg, Ph.D | .D. | | | |
| | | | Email: | Σ΄ | gapps | -r@ma | | cgapbs-r@mail.nih.gov | | | | |
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| Ouery Match Best Local Similarity 97.1%; Pred. No. 2.1e-200; Matches 841; Conservative 0; Mismatches 23; Indels 2; Gaps 2; | 1 AIGGACTCCCCGATCCAGATCTTCCGCGGGAGAGCCGGGCCCTGCCGCCCGAGCGCC 60 | 2 ATGGAATCCCCGATCTTCCGCGGGGGCCCGGGCCCTACCTGCGCCCCCGAGCGCC 61 | TGCCTGCCCCCAACAGCAGCGCCTGGTTTCCCGGCTGGGCCGACGACCACAACAACGCC | 62 TGCCTGCCCCCAACAGCAGCGCCTGGTTTCCCGGGTGGGGCCGAGCCCGACAGGAACGGC 121 | 121 AGCGCGGCTCGGAGGACGCGCAGCTGGAGCCCGCGACATCTCCCCGGCCATCCCGGTC 180 | というこう できない はんしん とうかい かんしょう はいかい かんしょう かんしょく かんしん かんしん かんしん かんしん かんしん かんしん かんしん かんし | ATCATCACGGGGGGTCTACTCCGTAGTGTTCGTCGTGGGGGTTTGGTGGGGGGAACTCGCTGGTC | 241 AIGITCGTGATCATCCGATACACAAGATGAAGACGACCAACATTTACATATTTAAC 300 | 242 ATGTTCGTGATCATCCGATACACAAGATGAAGACAGCAACCACATTACATATTTAAC 301 | CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG | 302 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG 361 | 361 ATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAGATAGTAATTTCCATTGATTACTAC 420 | 421 AACATGTTCACCAGCATCTTCACCTTGACCATGAGCGTGGACCGCTACATTGCCGTG 480 | 422 AACATGTTCACCAGCATCTTCACCTTGACCATGAGGGGGGGG | TGCCACCCGTGAAGGCTTTGGACTTCGCACACCCTTGAAGGCAAAGATCATCATATC | 482 TGCCACCCCGTGAAGGCTTTGGACTTCCGCACCCTTGAAGGCAAAGATCATCAATATC 541 | TGCATCTGGCTGCTGTCGTCATCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA | 542 IGCATCTGGCTGCTGTCGTCGTTGGCATCTGCAATAGTCCTTGGAGGCACCAAA 601 | 601 GTCAGGGAAGACGTCGATGGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC 660 | GICAGGGAAGACGICGAIGICAIIGAGIGCICCIIGCAGIICCCAGAIGALGACIACICC | TGGTGGGACCTCTTCATGAAGATCTGCGCTCTTTGCCTTCGTGATCCCTGTCCTC | | ATCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCTAAGAGCGTCC-GGCTCCTTTC | ATCATCATCGTCTGCTACACCCTGATGATCCTCGAGAGCGTCCCTTTC | TGGCTCCGGGGGAAAGATC-GCAACCTGCGTAGGATCACCGGATTGGTCCTGGTGGTGG | | TGGCAGTCTTCGTCGTCTGCTGGACT | 842 GIGGGCAGGCTIICGICCGICIGGCI 88/ | | LOCUS LOCUS CO960667 762 bp mRNA linear EST 17-AUG-2004 DRFINITION AGENCOURT 30842630 NIH MGC 146 Homo sapiens CDNA clone | | VERSION CO960667.1 GI:51325223 KEYWORDS EST. |
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Email: gapbs-remain inh.gov

Tissue Procurement: Guthrie cDNA Resource Center
cDNA Library Preparation: Guthrie cDNA Resource Center
cDNA Library Preparation: Guthrie cDNA Resource Center
cDNA Library Preparation: Guthrie cDNA Resource Center
cDNA Library Preparation: Guthrie cDNA Resource Center
cDNA Library Arrayed by: The I.M.A.G.B. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation

Clone distribution: MGC clone distribution information can be
thtp://image.lln.gov

Plate: Consortium/LLNL at:
http://image.lln.gov

High quality sequence start: 30
High quality sequence stop: 549.
Location/Qualifiers

1. 762
/ Organisme="Menon sapiens"
/ Mol type="mRNA"
/ Ab _ xref="Laxon:9606"
/ Ab _ xref="Laxon:9606"
/ Ab _ xref="Laxon:9606"
/ Ab _ bost="MRNA"
/ Ab _ bost="MRNA"
/ Ab _ host="MRAG"
/ Ab _ host="Weactor: pcDNA3.1; Site 1: multiple; Site 2:
multiple; ORF's were PCR-amplified (from IMAGE Clones or
from commercially available cDNA libraries) and cloned by
the Guthrie cDNA Resource Center (www.guthrie.org/CDNA)
into pcDNA3.1. For specific information on cloning sites
(which vary by clone), please refer to the Guthrie
website, using the Guthrie ID given in the file
ftp://image.lln.gov.image.rearrayed_plates/IRBF.preSV.dat
a. Note: this is a NIH_MGC Library."
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blished (1999)
act: Daniela S. Gerhard, Ph.D.
act: Daniela S. Gerhard, Ph.D.
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/ db xref="mRNA"
/ db xref="mRNA"
/ clone="mARNA"
/ lab_host="mARNA"
/ lab_host="mARNA"
/ lab_host="marNH MGC 146"
/ clone lib="mNH MGC 146"
/ note="Vector: pcDNA3.1; Site 1: multiple; Site 2:
multiple; ORF's were PCR-amplfied (from IMAGE clones or from commercially available cDNA libraries) and cloned by the Guthrie cDNA Resource Center (www.guthrie.org/cDNA)
into pcDNA3.1. For specific information on cloning sites (which vary by clone), please refer to the Guthrie website, using the Guthrie Indianage.llnl.gov.image.rearrayed_plates/IRBF.presV.dat
a. Note: this is a NIH_MGC Library."
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eukaryota; Eutheria; Primates; Catarrhini; Hominidae; Homo.
E 1 (bases 1 to 784)
National Institutes of Health, Mammalian Gene Collection (MGC)
In Unpublished (1999)
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Office of Cancer Genomics
National Cancer Institute / NIH
Bldg. 31 Rm10A07 Bethesda, MD 20892
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Guthrie cDNA Resource Center
CDNA Library Preparation: Guthrie cDNA Resource Conter
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LiNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Clone distribution: account of the High quality sequence start: 214
High quality sequence stop: 494.
Location/Qualifiers
Location/Qualifiers
Location/Consortium/LNL
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ATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTTCCATTGATTACTAC 446
                                                                                                                                                                           TGCATCTGGCT-GCTGTCGTCATCTGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAA 599
                                                     AACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCTACATTGCCGTG
                                                                                                    TGCCACCCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATC
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Matches 537; Conservative 0; Mismatches 12;
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/organism="Homo sapiens"
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IMAGE: 7389810 3', mRNA sequence.
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Homo sappens nuclear, Metazoa; Craniata; Vertebrata; Buteleostomi; Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammaliai Butheria; Primates; Catarrhini; Hominidae; Homo.

1 (Dases 1 to 837)

National Institutes of Health, Mammalian Gene Collection (MGC)

National Institutes of Health, Mammalian Gene Collection (MGC)

Unpublished (1999)

Contact: Daniela S. Gerhard, Ph.D.

Contact: Daniela S. Gerhard, Ph.D.

Contact: Daniela S. Gerhard, Ph.D.

Contact: Daniela S. Gerhard, Ph.D.

Contact: Daniela S. Gerhard, Ph.D.

Tissue Procuremented (1999)

Tissue Procurement: Dr. Stefan Hansson

CDNA Library Preparation: MGC, Bean Hansson

CDNA Library Preparation: MGC, Clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL)

DNA Sequencing by: Agencourt Bioscience Corporation

Clone distribution: MGC, clone distribution information can be http://image.llnl.gov

Plate: NDAM622 row: n column: 19

High quality sequence stop: 592.
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AGENCOURT 15623822 NIH MGC 147 Homo sapiens cDNA clone
IMAGE:30531690 5', mRNA sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                      GTCCGGCTCCTTTCTGGCTCCCGGAGAAGATCGCGAACCTGCGTAGGATCACCAGACTG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATGATGACTACTCCTGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTC
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                                                         CCTTGAGGCACCAAAGTCA-GGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCA
                                                                                                                                                                                                                                                 GTGATCCCTGTCCTCATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGC
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Bource

FEATURES

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This clone is available royalty-free from RZPD; contact RZPD; contact RZPD (clone@rzpd.de) for further information. Seq primer: M13r, Primer sequence: TTTCACACAGGAAACAGCTATGAC. Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121 GCGTAGGATCACCAGACTGGTCCTGGTGGTGGTGGCAGTCTTCGTCGTCTGCTGGACTCC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               807 GCGTAGGATCACCAGACTGGTCCTGGTGGTGGTGGCAGTCTTCGTCGTCTCTGCTGGACTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          867 CATTCACATATTCATCCTGGTGGAGGCTCTGGGGGAGCACCTCCCACAGCACAGCTGCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    927 CICCAGCTATTACTICTGCATCGCCTTAGGCTATACCAACAGTAGCCTGAATCCCATTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241 CTCCAGCTATTACTTCTGCATCGCCTTAGGCTATACCAACAGTAGCCTGAATCCCATTCT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361 GATGAGGATGGAGCGGCAGTAGCAGAGTCCGAAATACAGTTCAGGATCCTGCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       687 CGTCTTCATCTTTGCCTTCGTGATCCCTGTCATCATCATCATCGTCTGCTACACCCTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  747 GATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCTGGCTCCCGAGAGAAGATCGCAACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181 CATTCACATATTCATCCTGGTGGAGGTCTGGGGAGCACCTCCCACAGCACCAGCTGTCT
                       Contact: Ina Rolfs
RZPD Deutsches Ressourcenzentrum fuer Genomforschung GmbH
Im Neuenheimer BLD 580, D-69120 Heidelberg, Germany
RZPD; IMAGp998B19190.
                                                                                                                                                                                  http://www.rzpd.de/CloneCards/cgi-
bin/showLib.pl.cgi/response?libNo-972 Contact: Ina Rolfs
bin/showLib.pl.cgi/response?libNo-972 Contact: Ina Rolfs
Heubnerweg 6, D-14059 Berlin, Germany
Tel: +49 30 32639 101
Fax: +49 30 32639 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCTGAGGGACATCGATGGATGAATAAACCAGTATGACTAGTCGTGGA 1154
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Homo sapiens"
|mol_type="mRNA"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 466.4; DB 5;
Pred. No. 2.3e-111;
                                                                                                                                    RZPDĽIB; I.M.A.G.E. cDNA Clone Collection;
Human UnigeneSet - RZPD3 (RZPDĽIB No.972)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
40.4%; Score 466.4;
Best Local Similarity 99.8%; Pred. No. 2.3e
Matches 467; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /sex="Female"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1. .480
                                                                                                                                                                                                                                                                                                                                                                 www.rzpd.de
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                                                                                                                                                                            /lab_host="DH10B TonA"
/lab_host="DH10B TonA"
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5'-TTTTTTTTTTTTTTTTTVTV3', size-selected for average
insert size 2.3 kb and normalized to ROT 5. This is a
primary library enriched for full-length clones and
constructed using the Cap-trapper method (Carninci, in
preparation). Library constructed by M. Brownstein
(NIMH/NHGRI, National Institutes of Health). Note: This is
a NIH_MGC library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EST 23-JAN-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGCCTGCCCCCAACAGCAGCGCCTGGTTTCCCGGGCTGGGCCGAGCCGGACAGCAACGGC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCGCCGGCTCGGAGGACGCCGCAGCTGGAGCCCGCGCACATCTCCCCGGCCATCCCGGTC 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGGCTTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG 599
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240 ATGGACTCCCCGATCCCAGATCTTCCGCGGGAGCCTGGCCCTACCTGCGCCCCGAGCGCC 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300 TGCCTGCCCCCCAACAGCAGCGCCCTGGTTTCCCGGCTGGGCCGAGCCCGACAACGGC 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360 AGCGCCGGCTCGGAGGACGCGCAGCTGGAGCCCGCGCACATCTCCCCGGCCATCCCCGGTC 419
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Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.

    (bases 1 to 480)

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Radelof,U., Schneider,D. and Korn,B.
Human UnigeneSet - RZPD3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      477
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BX092912 Soares placenta Nb2HP Homo sapiens cDNA clone
IMAGp998B19190 ; IMAGE:134322, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
40.8%; Score 470.6; DB 7; Length 837;
Best Local Similarity 99.2%; Pred. No. 2.1e-112;
Matches 473; Conservative 0; Mismatches 4; Indels 0
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                                                      organism="Homo sapiens"
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Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BX092912.1 GI:27823005
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VERSION KEYWORDS

REFERENCE AUTHORS

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      Mouse Genome
Research Group in Riken
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tive 0; Mismatches 338;
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/clone="A230002D02"
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/mol_type="mRNA"
/strain="C57BL/6J"
                                                                                                                               prepare mouse tissues.
Please visit our web site for fi
URL:http://genome.gec.riken.jp/
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Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Carninci, P., Shibata, Y., Hayatsu, N., Sugahara, Y., Shibata, K., Itoh, M., Konno, H., Okazaki, Y., Muramatsu, M. and Hayashizaki, Y. Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes Genome Res. 10 (10), 1617-1630 (2000)
                                                                                             AK038389 2405 bp mRNA linear HTC 03-APR-2004 Mus musculus adult male hypothalamus cDNA, RIKEN full-length enriched library, clone:A230002D02 product:opioid receptor, mu,
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Analysis of the mouse transcriptome based on functional annotation of 60,70 (ull-length cDNAs Nature 420, 563-573 (2002)
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
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Functional annotation of a full-length mouse cDNA collection
Nature 409, 685-690 (2001)
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High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
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Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs

In Nature 420, 563-573 (2002)

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E Adachi, J., Aizawa, K., Akimura, T., Hara, A., Hashizume, W., Hayashida, S., Furuno, M., Hanagki, T., Hara, A., Hashizume, W., Hayashida, S., Furuno, M., Hiramoto, K., Hiraoka, T., Hirozane, T., Katoh, H., Kawai, J., Kasukawa, T., Katoh, H., Kouda, M., Koya, S., Komno, H., Kouda, M., Koya, S., Kurihara, C., Matsuyama, T., Miyazaki, A., Murata, M., Nahi, K., Nomura, K., Numazaki, R., Ohno, M., Ohsato, N., Okazaki, Y., Satio, R., Satio, R., Sakai, C., Sakai, K., Sakai, C., Sakai, K., Sakai, K., Shiraki, T., Saao, H., Sasaki, D., Shibata, R., Shiraki, T., Sakai, C., Takaku-Akahira, Sogabo, Y., Tanaka, T., Tomaru, A., Toya, T., Yasunishi, A., Muramatsu, M. and Hayashizaki, Y.
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PFQSAKYLMETWPFGELLGKAXLSIDYYNMFTSIFTLTMMSVDRYIAVCHPVKALDFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (16-JUL-2001) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIERN), Laboratory for Genome Exploration Research Grup, RIKEN Genomic Sciences Center (SCC), RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan (E-mail:genome-res@gsc.riken.jp, UNE.http://genome.gsc.riken.jp/, Tel:81-45-503-9222,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'tissue type="cortex"
'clone_lib="RIKEN full-length enriched mouse cDNA library"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cDNA library was prepared and sequenced in Mouse Genome broyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to
                                                                                                                                                                                                                               The RIKEN Genome Exploration Research Group Phase II Team and the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="unnamed protein product; DELTA-TYPE OPIOID RECEPT
(SWISSPROT|P32300, evidence: FASTY, 99.5%ID, 100%length,
                                                                                                                                                                                                                                                                                                                                                                                           The FANTOM Consortium and the RIKEN Genome Exploration Research
Okazaki,Y., Muramatsu,M., Inoue,Y., Kira,A. and Hayashizaki,Y. RIKRN integrated sequence analysis (RISA) system--384-format sequencing pipeline with 384 multicapillary sequencer Genome Res. 10 (11), 1757-1771 (2000)
                                                                                                                                                                                                                                                                       Punctional annotation of a full-length mouse cDNA collection
Nature 409, 685-690 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           please visit our web site for further details.
URL:http://genome.gsc.riken.jp/
URL:http://fantom.gsc.riken.jp/.
Location/Qualifiers
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db_xref="taxon:10090"
clone="A830044L10"
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/strain="C57BL/6J"
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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                                                                     TCTCTGCAATAGTCCTTGGAGGCACCAAAGTCAGGGAAGACGTCGATGTCATTGAGTGCT
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Mus musculus 10 days neonate cortex cDNA, RIKEN full-length enriched library, clone:A830044L10 product:DELTA-TYPE OPIOID RECEPTOR, full insert sequence.
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High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
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ACCORNAL MANDRES ON ACCORDING SAID THE PROTECTION MERNEY RIGHT CO. ARP. 2004
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Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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                                                                                                     634 TTGCAGTTCCCAGATGATGACTACTCCTGGTGGGACCTCTTCATGAAGATCTGCGTCTTC
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Mus musculus adult male hypothalamus cDNA, RIKEN full-length enriched library, clone:A230027D20 product:NOCICEPTIN RECEPTOR (ORPHANIN FQ RECEPTOR), full insert sequence.
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High-efficiency full-length cDNA
Meth. Enzymol. 303, 19-44 (1999)
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LGLKYTIVGLYLAVCIGGLLGNCLWYVILRHTKMKTATNIYIFNLALADTLYLLTLP
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FSFILPVLIISVCYSLMIRRLAGGSREKORNLERITRLVLVVVAVFVGGWTPV
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                                                                                                                                                                                                                                                                                                                                                                                                     /tissue_type="hypothalamus"
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| dev stage="adult"
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                                                                                             prepare mouse tissues.
Please visit our web site for further details.
URL:http://genome.gsc.riken.jp/
URL:http://fantom.gsc.riken.jp/
Location/Qualifiers
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/db_xref="G1:26332699"
                                                                                                                                                                                                                                                /organism="Mus musculus"
                                                                                                                                                                                                                                                                       /mol_type="mRNA"
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/note="putative"
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0; Mismatches 338;
                                                                                     /note="putative"
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S Adachi, J. Aizawa, K., Akimura, T., Arakawa, T., Bono, H., Carninci, P., Fukuda, S., Furuno, M., Hanagaki, T., Hara, A., Hashizume, W., Hayashida, K., Hayatsu, N., Hiramoto, K., Hiraoka, T., Hirozane, T., Horzi, F., Imotani, K., Ishi, Y., Itoh, M., Kagawa, I., Kasukawa, T., Katoh, H., Kawai, J., Kojima, Y., Kondo, S., Konno, H., Kouda, M., Koya, S., Kurihara, C., Matsuyama, T., Miyazaki, A., Murata, M., Okazaki, Y., Saito, R., Nomura, K., Numazaki, R., Ohno, M., Ohsato, N., Okazaki, Y., Saito, R., Saitoh, H., Sakai, C., Sakai, K., Sakazume, N., Sagani, M., Tagawa, A., Takahashi, F., Takaku-Akahira, S., Takeda, Y., Tanaka, T., Tomazu, A., Taya, T., Yasunishi, A., Muramatsu, M. and Hayashizaki, Y., Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LGLKVTIVGLYLAVCIGGLIGNCLVMYVILRHTKMKTATNIYIRNLALADTLVILTLP
PQGTDILLGFWPFGNALCKTVIAIDYYNMFTSTFTLTAMSVDRYVAICHPITALDVRT
SSKAQAVNATWALASVYGVPVAINGSAQVEDEBIEGLVETPRODYWGPVPAICIFL
FSFII PVI ISVYGSLAINTRILRGVRLLSGSBEKDNRINRITRILVLVVVVAVPVGCWTPV
QVFVLVVQGLGVQPGSETAVAILRFCTALGYVNSCLNPILYAFIJDENFKACFRKFCCAS
ALHREMQVSDRVRSIAKDVGLGCKTSETVPRPA"
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db_xref="GI:26348048"
'translation="MESLFPAPFWEVLYGSHFQGNLSLLNETVPHHLLLNASHSAFLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (16-APR-2002) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center (GSC), RIKEN Yokohama Institute; 1-7-22 Sushiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan (E-mail:genome-res@gsc.riken.jp, UKL:http://genome.gsc.riken.jp/, Tel:81-45-503-9222,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /tissue_type="hypothalamus"
/clone_lib="RIKEN full-length enriched mouse cDNA library"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="unnamed protein product; NOCICEPTIN RECEPTOR (ORPHANIN FQ RECEPTOR) (SWISSPROT|P35377, evidence: FASTY, 97.1%ID, 100%length, match=1135)
                                                                                                                                                                                                                                                                                                                                                                                                                              Group Phase I & II Team.
Analysis of the mouse transcriptome based on functional annotation
of 60,770 full-length cDNAs
                                                                                                                                                                                                                      The RIKEN Genome Exploration Research Group Phase II Team and the
                                                                                                                                                                                                                                                                                                                                                                                              Consortium and the RIKEN Genome Exploration Research
                                                                                                                                                                                                                                                                                   Functional annotation of a full-length mouse cDNA collection
sequencing pipeline with 384 multicapillary sequencer
Genome Res. 10 (11), 1757-1771 (2000)
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URL:http://genome.gsc.riken.jp/
URL:http://fantom.gsc.riken.jp/.
Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                      Nature 409, 685-690 (2001)
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6 (bases 1 to 2959)
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/note="putative"
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980 CCATTCTCTACGCCTTTCTTGATGAAAATTTCAAGCGGTGTTTCCGGGACTTCTGCTTTC 1039
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Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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                 413 CCATCTGCATCTTCCTCTTCTCTTCATCGTCCCCGTGCTCGTCTCTCTGTTCTCTGCTACA
                                                                                                                            740 CCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCTGGCTCCCGAGAAGATC
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Ish-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
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                                                                                                                                                                                                                                                                                                                                                                             Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Inferring nonneutral evolution from human-chimp-mouse orthologous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Adams, M.D. and Cargill, M.
Adams, M.D. and Cargill, M.
Direct Submitted (16-NOV-2003) Celera Genomics, 45 West Gude Drive, Rockville, MD 20850, USA
Rockville, MD 20850, USA
This sequence was made by sequencing genomic exons and ordering them based on alignment.
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Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Ferriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J., Adams, M.D. and Cargill, M.
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Pred. No. 8.5e-81;
0; Mismatches 281;
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/organism="Homo sapiens"
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/db_xref="taxon:9606"
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/locus_tag="HCM3993"
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                                                                                          gene,
                                                                                 Homo sapiens OPRL1 gene
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Best Local Similarity 65.4%;
Matches 548; Conservative
                                                                                                                                                                                                                                                                                            sapiens (human)
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Mus musculus 7 days neonate cerebellum cDNA, RIKEN full-length enriched library, clone:A730079L19 product:NOCICEPTIN RECEPTOR (ORPHANIN FQ RECEPTOR), full insert sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTTCCACTGAAGATGAGGATGGAGCGCAGAGCACTAGCAGAGTCCGAAATACAGTTCA 1094
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               954 GGACCGGAACCTGCGACGCATCACACGGCTGGTACTGGTAGTTGTGGGCTGTGTTTGTGGG
                                                                       483 TACCCTGGTCTTGCTGACACTGCCCTTCCAGGGCACAGACATCCTTCTGGGCTTCTGGGC
                                                                                                                  TITIGGGGATGTGCTGTGCAAGATAGTAATTTCCATTGATTACTACAACATGTTCACCAG
                                                                                                                                                               543 ATTIGGGAATGCACTGTGCAAGACGGTCATTGCTATCGACTACTACAACATGTTTACCAG
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AK043275.1 GI:26089596
HTC; CAP trapper.
Mus musculus (house mouse)
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                                                                                                                                                                         Adachi, J., Aizawa, K., Akimura, T., Arakawa, T., Bono, H., Carninci, P., Fukuda, S., Furuno, M., Hanagaki, T., Hara, A., Hashizume, W., Hayatau, N., Hiramoto, K., Hiraoka, T., Hirozane, T., Hayatau, N., Hiramoto, K., Hiraoka, T., Hirozane, T., Hori, F., Imotani, K., Ishii, Y., Itoh, M., Kagawa, I., Kasukawa, T., Katch, H., Kawai, J., Kojima, Y., Kondo, S., Konno, H., Kouda, M., Koya, S., Kurihara, C., Matsuyama, T., Miyazaki, A., Murata, M., Ohsato, N., Okazaki, Y., Saito, R., Saito, R., Saito, R., Saito, R., Saito, R., Saito, R., Saito, R., Saito, R., Shibata, K., Shinagawa, A., Shiraki, T., Sogabe, Y., Taqami, M., Taqawa, A., Shiraki, T., Takaku-Akahira, S., Takamatsu, M. and Hayashizaki, Y., Tanaka, T., Tomaru, A., Toya, T., Yasunishi, A., Akahira, S., Direct Submission
                                                                                                                                                                                       Carninci, P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (16-JUL-2001) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center (GSC), RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan (E-mail:genome-res@gsc.riken.jp, URL:http://genome.gsc.riken.jp/, Tel:81-45-503-9222,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /clone="A830097K10"
/tissue_type="cortex"
/clone_lib="RIKEN full-length enriched mouse cDNA library"
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m
                                                           Group Phase I & II Team.
Analysis of the mouse transcriptome based on functional annotation of 60,70 full-length cDNAs
Nature 420, 563-573 (2002)
6 (bases 1 to 2940)
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(SWISSPROT|P35377, evidence: FASTY, 97.1%ID, 100%length,
                                               The FANTOM Consortium and the RIKEN Genome Exploration Research
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Pred. No. 2.4e-76;
0; Mismatches 340; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          prepare mouse tissues.
Please visit our web site for further details.
URL:http://ganome.gsc.riken.jp/
URL:http://fantom.gsc.riken.jp/.
Location/Qualifiers
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/etrain="C57BL/6J"
/db_xref="FANTOM_DB:A830097K10"
/db_xref="taxon:10090"
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    Nature 409, 685-690 (2001)
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                          /tissue type="cerebellum"
/clone lib="RIKEN full-length enriched mouse cDNA library"
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                                                                                                                                  (ORPHANIN FQ RECEPTOR)
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                                                                                                                                                                                                                                                                                                                                                                                          Length 2974;
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                                                                                                                                                                                                                                                                                                                                                                                        Score 325.8; DB 3;
Pred. No. 3.4e-74;
0; Mismatches 302;
                                                                        /dev_stage="7 days neonate"
198. .1335
                                                                                                                                /note="NOCICEPTIN RECEPTOR (SWISSPROT | P35377, evidence
                                                                                                                                                                                                             putative"
2951. .2956
/note="putative"
                                                                                                                                                                                                                                                                                                                     /note="putative"
                                                                                                                                                                                                                                                                                                                                                                                             Query Match 28.2%;
Best Local Similarity 63.3%;
Matches 536; Conservative
                                                                                                                                                                                     match=1135)
                                                                                                        misc_feature
                                                                                                                                                                                                                                        polyA_signal
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Direct Submission
Submitted (16-JUL-2001) Yoshihide Hayashizaki, The Institute of
Submitted (16-JUL-2001) Yoshihide Hayashizaki, The Institute of
Physical and Chemical Research (RIKEN), Laboratory for Genome
Exploration Research Group, RIKEN Genomic Sciences Center (GSC),
RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama,
Kanagawa 230-0045, Japan (E-mail:genome-res@gsc.riken.jp,
URL:http://genome.gsc.riken.jp/, Tel:81-45-503-9222,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Group Phase I & II Team.
Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs
Nature 420, 563-573 (2002)
6 (bases 1 to 2974)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The FANTOM Consortium and the RIKEN Genome Exploration Research sroup Phase I \& II Team.
                                                                                                                                                     Carninci, P., Shibata, Y., Hayatsu, N., Sugahara, Y., Shibata, K., Itoh, M., Konno, H., Okazaki, Y., Muramatsu, M. and Hayashizaki, Y. Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new Genome Res. 10 (10), 1617-1630 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the RIKEN Genome Exploration Research Group Phase II Team and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Functional annotation of a full-length mouse cDNA collection Nature 409, 685-690 (2001)
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Please visit our web site for further details.
URL:http://genome.gsc.riken.jp/
URL:http://fantom.gsc.riken.jp/.
nayn-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
99279253
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/strain="C57BL/64"
/db_xref="FANED/60"
/db_xref="taxon:10090"
/clone="A730079L19"
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/tissue type="medulla oblongata"
/clone_lib="RIKEN full-length enriched mouse cDNA library"
/ov = stage="adult"
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                     RIKEN Yokohama Institute; 1.7-22 Suehiro-cho, Tsurumi.ku, Yokohama Kanagawa 230-0045, Japan (B-mail:genome-res@gsc.riken.jp, URL:http://genome.gsc.riken.jp/, Tel:81-45-503-9222, Fax:81-45-503-9226 CDNA library was prepared and sequenced in Mouse Genome Exploration Research Group in Riken Genomic Science Center and Genome Spionare Laboratory in Riken Division of Experimental Animal Research in Riken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="NOCICEPTIN RECEPTOR (ORPHANIN FQ RECEPTOR)
(SWISSPROT | P35377, evidence: FASTY, 97.1%ID, 100%length,
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Exploration Research Group, RIKEN Genomic Sciences Center
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                                                                                                                                                                                                                                                                                               prepare mouse tissues.
Please visit our web site for further details.
URL:http://gonome.goc.riken.jp/
URL:http://fantom.gsc.riken.jp/.
Location/Qualifiers
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llarity 63.3%; Pred. No. 4.4e-74;
Conservative 0; Mismatches 301;
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|db_xref="taxon:10090"
|clone="6330500C19"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Mus musculus"
/mol_type="mRNA"
/strain="C57BL/6J"
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Analysis of the mouse transcriptome based on functional annotation of 60,700 full-length cDNAs

L Nature 420, 563-573 (2002)

E ( bases 1 to 3101)

S Adachi, J., Alzawa, K., Akimura, T., Hara, A., Hashizume, W.,
Fukuda, S., Furuno, M., Hangaki, T., Hara, A., Hashizume, W.,
Hayashida, K., Hayateu, N., Hiramoto, K., Hiraoka, T., Hirozane, T.,
Hayashida, K., Hayateu, N., Kojima, Y., Konno, H., Kasukawa, T.,
Katoh, H., Kawai, J., Kojima, Y., Konno, H., Kouda, M.,
Koya, S., Kurihara, C., Matsuyama, T., Miyazaki, A., Murata, M.,
Nakamura, M., Nishi, K., Nomura, K., Numazaki, R., Ohno, M., Ohsato, N.,
Sano, H., Sasaki, D., Shibata, K., Shinagawa, A., Shiraki, T.,
Sogabe, Y., Tagami, M., Tagawa, A., Takaku-Akahira, S.,
Takeda, Y., Tanaka, T., Tomaru, A., Toya, T., Yasunishi, A.,
                                                                                                                                                                                                                                                           AK031926
Mus musculus adult male medulla oblongata cDNA, RIXEN full-length enriched library, clone:6330500C19 product:NOCICEPTIN RECEPTOR (ORPHANIN FQ RECEPTOR), full insert sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Shibata, K., Itoh, M., Aizawa, K., Nagaoka, S., Sasaki, N., Carninci, P., Konno, H., Akiyama, J., Nishi, K., Kitsunai, T., Tashiro, H., Itoh, M., Sumi, N., Ishii, Y., Nakamura, S., Hazama, M., Nishine, T., Harada, A., Yamamoto, R., Matsumoto, H., Sakaguchi, S., Ikegami, T., Kashiwagi, K., Fujiwake, S., Inoue, K., Togawa, Y., Izawa, M., Ohara, E., Watchiki, M., Yoneda, Y., Ishikawa, T., Ozawa, K., Tanaka, T., Matsuura, S., Kawai, J., Okazaki, Y., Muramatsu, M., Inoue, Y., Kira, A. and Hayashizaki, Y. RIKBN integrated sequence analysis (RISA) system-384-format Genome Res. 10 (11), 1757-1771 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Carninci, P. and Hayashizaki, Y.
High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
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Clark, A.G., Glanowski,S., Nielson,R., Thomas,P., Kejariwal,A., Todd,M.A., Tanenbaum,D.M., Civello,D.R., Lu,F., Murphy,B., Perriera,S., Wang,G., Zheng,X.H., White,T.J., Sninsky,J.J., Adams,M.D. and Cargill,M.
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This sequence was made by sequencing genomic exons and ordering them based on alignment.

Location/Qualifiers
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/mol_type="genomic DNA"
/db_xref="taxon:10090"
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/locus_tag="HCM3993"
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This sequence is a single read and was generated as part of a large scale clone-end sequencing project of the Tetraodon nigroviridis genome. For more information, please take a look at http://www.genoscope.cns.fr/Tetraodon.
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                                                                                                                                                                                                                                                                                                                                                                               Genoscope.
Direct Submission
Submitted (12-APR-2000) Genoscope - Centre National de Sequencage :
BP 191 91006 EVRY cedex - FANCE (E-mail : seqref@genoscope.cns.fr
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Roest Crollius, H., Jaillon, O., Dasilva, C., Bouneau, L., Fisher, C., Bernot, A., Fizames, C., Wincker, P., Brottier, P., Quetier, F., Saurin, W. and Weissenbach, J. Estimate of human gene number provided by genome-wide analysis using Tetraodon nigroviridis DNA sequence Nat. Genet. 25 (2), 235-238 (2000)
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Genome Res. 10 (7), 939-949 (2000)
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Pred. No. 4.2e-70;
8; Mismatches 230; Indels
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/mol type="genomic DNA"
/db_xref="taxon:99883"
/clone="098B06"
/clone lib="G"
/note="Genoscope sequence ID : COBGO
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Search completed: April 6, 2005, 22:01:33 Job time : 4388.33 secs

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